

Title 18 – Chapter 9 – Things to Think About

“June made Ray promise not to go looking for trouble again before she’d say yes.” As you will remember, Ray broke Rule One and promised. Neither Ray nor Steve went looking for trouble, because trouble had a way of finding them. Nonetheless, two years later the phase VI homes were finished and they were able to retire. They had ended up earning about \$10 million each before taxes. And Nevada has no state income tax so all they had to pay was federal income tax.

The furor over the new gun laws had finally died down and with somewhere in the region of 50,000 people dead the gang problem was mostly resolved. In an effort to stem the flow of drugs into the country, Congress had funded 2 concrete walls. Both walls were buried in the ground 10’ and extended 15’ into the air and were topped by charged electrical wires. Two walls because if they only built a wall along the US border with México, the drug traffickers would simply move their operations to Canada like they’d moved them to California from Florida. México was ready to declare war and the Canadians couldn’t care less. Canada already hassled the dickens out of Americans entering Canada and had for years.

Border Patrol agents were assigned to the Customs function and the number of containers being inspected upon entering the country was dramatically increased. So much so that the price of street drugs tripled, forcing many people into rehab programs. Naturally the UN protested all of these actions. In 2016, a Republican took the White House on a platform of America for Americans and he gave the UN their walking papers with the admonition, *don’t come back*. In the year of the country’s 240th anniversary the United States of America was entering into a new period of isolationism, not totally dissimilar from period between WW I and WW II. How long had that lasted? From 1918 to 1941, that’s how long.

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With the International Space Station in the waters of the Pacific, there really wasn’t any reason for the US to cooperate with anyone except itself. China built most of the computers the US used but the Chinese need the money because of its growing population. There was a time in the distant past when the US led the industrialized nations in productivity. At the beginning of the 21st Century, the big thing was outsourcing and American jobs were being transferred from the US to countries like India. Thirteen years earlier IBM had moved from the computer sector to the service sector and along with Accenture (formerly [Arthur] Anderson Consulting) provided a majority of the business services for large corporations. In a sense, everyone had all of their eggs in a single basket.

The United States had the new oil field open in Alaska and it had proven reserves of greater than 10.4 billion barrels of crude oil. The US didn’t need any Middle Eastern oil or much from Venezuela. Congress offered incentives and the jobs began to return to the United States. The United States also abrogated most of the free trade agreements

including NAFTA. Part of the new movement by Congress including funding a rebuilding of America's infrastructure and it finally once again became cheaper to produce steel in the US than abroad. Countries like Japan didn't like it now that the shoe was on the other foot because suddenly, America imposed restrictive trade barriers that eliminated the negative balance of trade. Countries could no longer sell any more into the US than they bought, except for China and even that was ending.

According to the Oil and Gas Journal, Saudi Arabia contains 261.9 billion barrels of proven oil reserves (including 2.5 billion barrels in the Saudi-Kuwaiti Divided, aka "Neutral" Zone), around one-fourth of proven, conventional world oil reserves. Around two-thirds of Saudi reserves are considered "light" or "extra light" grades of oil, with the rest either "medium" or "heavy." Overall, Saudi Arabia may contain up to 1 trillion barrels of ultimately recoverable oil, with Oil Minister Naimi stating on December 27, 2004 that the country's proven reserves could reach 461 billion barrels within a few years. Although Saudi Arabia has around 80 oil and gas fields (and over 1,000 wells), more than half of its oil reserves are contained in only eight fields, including Ghawar (the world's largest oil field, with estimated remaining reserves of 70 billion barrels) and Safaniya (the world's largest offshore oilfield, with estimated reserves of 35 billion barrels). Ghawar's main producing structures are, from north to south: Ain Dar, Shedgum, Uthmaniyah, Farzan, Ghawar, Al Udayliyah, Hawiyah, and Haradh. Overall, Ghawar alone accounts for about half of Saudi Arabia's total oil production capacity.

Saudi Arabia is a key oil supplier to the United States and Europe. Asia (e.g., China, Japan, South Korea and India) now takes around 60% of Saudi Arabia's crude oil exports, as well as the majority of its refined petroleum product exports. During the first ten months of 2004, Saudi Arabia exported 1.55 million bbl/d of oil (of which 1.49 million bbl/d was crude) to the United States. For this time period, Saudi Arabia ranked third (after Canada and Mexico, and just ahead of Venezuela) as a source of total (crude plus refined products) US oil imports, and third for crude only. Saudi Arabia is eager to maintain and even expand its market share in the United States for a variety of economic and strategic reasons. During the first ten months of 2004, Saudi Arabia's share of US crude oil imports was 14.8%, down from 18.2% during the first ten months of 2003.

A recent study by the US Energy Information Administration (EIA) predicted world demand for oil would reach 112 million barrels per day (bbl/d) by the year 2020.

This demand could only be supplied by the major oil producers including Iraq, Saudi Arabia, Iran, Kuwait, the United Arab Emirates and Venezuela. In 2001, total global crude oil production was estimated at 76.8 million bbl/d.

The US is the world's major oil consumer, with a per capita consumption of 28 barrels a year, as compared to only two barrels a year for each Chinese citizen.

Such statistics emphasize the fact that the US is more dependent than ever on imported oil. US oil imports, which accounted about one-third of total US petroleum needs in 1973, jumped to 60% of US oil needs in 2002.

This big increase in US oil imports was necessitated by rapid economic growth. In the year 2000, the US consumed 19.7 million bbl/d of petroleum (crude oil + petroleum products) or about one-quarter of total world oil production.

The forecasts indicate that US demand for oil will grow to 26.7 million bbl/d by the year 2020.

How long were those 10.4 billion barrels of new oil going to last? (400 days) The US had 22.045 billion barrels of proven reserves as of January 1, 2001, 12th highest in the world. These reserves are concentrated overwhelmingly (over 80%) in the four states – Texas (25% including the state's reserves in the Gulf of Mexico), Alaska (24%) California (21%) and Louisiana (14% including the state's reserves in the Gulf of Mexico). This is an increase of 1.3% over its reserves as of January 1, 2000. The US proven natural gas reserves (3.2% of the world reserves or 6th in the world) as of January 1, 2001 are of the order of 177 trillion cubic feet (Tcf), which is an increase of about 6% over the reserves as of January 1, 2000. However, US proven oil reserves have declined by about 20% since 1990, with the largest single decline of 1.6 billion barrels in 1991.

Proved Ultimate Recovery is the sum of proved reserves and cumulative production. It is a gauge of how much has already been produced plus proved reserves. In 1977, US crude oil and condensate proved reserves were 33,615 million barrels. Cumulative production of crude oil and lease condensate for 1977 through 2000 was 62,468 million barrels. US estimated proved ultimate recovery of crude oil was fundamentally increased during this period owing to the proved ultimate recovery appreciation process (continued development of old fields).

Richard C. Duncan, PhD has floated what is known as the Olduvai Theory, at the Pardon Keynote Symposia of the Geological Society of America Summit 2000 at Reno, Nevada on November 13, 2000. The Olduvai theory has been called unthinkable, preposterous, absurd, dangerous, self-fulfilling, and self-defeating. The relevance of this theory to the topic under discussion is only in the fact that oil and in turn energy production per capita will fall to critical values in the next 25 to 30 years. The US, as the globally unchallenged hegemonic power with its desire to continue to be so for a while longer, will certainly intervene to ensure that although the world may go without energy, not so the United States of America.

World energy production per capita from 1945 to 1973 grew at a speed of 3.45%/year. From 1973 to the all-time peak in 1979, it slowed to a sluggish 0.64%/year. Then suddenly – and for the first time in history – energy production per capita took a long-term decline of 0.33 %/year from 1979 to 1999. From 2000 to 2011, world energy production per capita will decrease by about 0.70%/year. The Olduvai Theory says that energy production per capita will fall to its 1930 value of 3.32 barrels of oil/year by 2030, thus giving Industrial Civilization a lifetime of less than or equal to 100 years: 1930-2030.

Governments have lost respect. World organizations are ineffective. Neo-tribalism is rampant. The population is over six billion and counting. Global warming and emerging viruses are headlines. The reliability of electric power networks is falling. And the instant the power goes out; you are back in the Dark Age. The Olduvai theory deals neither with the geology or the paleontology of the Olduvai Gorge. Nor is it prescriptive. Rather, the theory simply attempts to explain the historic world energy production (and use) and population data in terms of overshoot and collapse. Its relevance to the present day pulls in global strategy should not be lost sight of.

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Attitudes change when a man gets a family. Suddenly, he has a whole lot more than himself to worry about. He has to keep the wife and the kids happy and he has to provide for their security. Of course the wife has to have her own vehicle too, maybe something like a SUV to haul the kids to school. If it's more than a block, the kids expect to be delivered, you know. My mom used to tell me how she walked over 2½ miles of frozen plowed fields to go to the country school in the winter. Guess that's why she quit after the 8th grade. Now a-day's kids bitch if they have to walk to the front of the housing tract to catch a bus. Do you really believe it got better by 2017?

If the annual cost of living increases 4% a year and a loaf of bread costs almost \$3 in 2005, what will it cost in 2017? \$4.80 a loaf. If a gallon of gas costs \$2.50 in 2005, what will it cost in 2017? \$10.00 a gallon. I sure hope all of you people on fixed incomes like beans and rice, assuming you can afford it and can walk to the grocery store. I've heard it suggested that the stores would be full of food that no one could afford. Smart fella, I don't doubt he got that one right. How come one loaf of bread costs \$1 and the same loaf in the fancy wrapper costs \$3? They both weigh 24 ounces. They're essentially nothing but flour, sugar, shortening and yeast. They don't taste the same and the \$3 loaf has a finer texture and more preservatives, but they're both still bread. The \$1 loaf of bread will be up to \$1.60. I know; since the wife has a SUV and you're a millionaire, why not buy a Hummer and a box of those big cigars?

The reason that an ex-hooker would make a good wife because if she chooses you that means that she thinks you're something special. Or, she could just be desperate as hell. The girls in this story didn't seem desperate to me. June didn't even get pregnant until a year after Ray and she were married. Hey, hookers are people, too. But there was that little promise that Ray made that he wouldn't look for trouble. Which worked pretty well until TSHTF again. According to the Yellowstone.pdf file Ray had on his computer, two of the super eruptions of Yellowstone, the Huckleberry Ridge eruption 2.1 million years ago and the Lava Creek eruption 640,000 years ago were big. The former reached Texas, Oklahoma, Missouri, Iowa and Minnesota. The latter reached Mississippi, Arkansas, Missouri, Iowa and Minnesota plus Canada and Mexico. The little one in between, the Mesa Falls eruption 1.3 million years ago hit the Texas and Oklahoma panhandles plus Kansas, Nebraska and half of South Dakota.

The eruption on the Discovery Channel program was supposed to have put out 2,500km³, which was roughly the size of the Huckleberry Ridge eruption. While the Lava Creek eruption only put out 1,000km³, it reached further. It was easy to see why Yellowstone was worthy of a movie on TV; Yellowstone was off schedule, depending on how you counted. The interval between the 3 eruptions was 800,000 years between the 1st and 2nd and 660,000 years between the 2nd and 3rd. If that were a decreasing interval, Yellowstone was overdue and if it weren't, we might have a while. They might end up waiting at Yellowstone so long that they forgot why they were there in the first place. The progression suggested that the most recent eruption should have occurred 635,500 years after the previous and Yellowstone was overdue by about 4,500 years. That's why it was important, but it was only true if the time interval was decreasing at a constant rate (-0.175).

Long Valley had only erupted once before according to the geological records, 760,000 years ago. Consequently, the geologists hadn't realized when it might go a second time as it did at the beginning of this tale. The known volcanic history of the Long Valley area started several million years ago when magma began to collect several miles below the surface. Volcanic activity became concentrated in the vicinity of the present site of Long Valley Caldera 3.1 to 2.5 million years ago with eruptions of rhyodacite followed by high-silica rhyolite from 2.1 to 0.8 million years ago. After some time a cluster of mostly rhyolitic volcanoes formed in the area. All told, about 1,500 square miles (4,000 square km) were covered by lava. The continental US contained several Supervolcanoes: Mount Aniakchak, Crater Lake, Mount Katmai, La Garita, Long Valley, Henry's Fork, Island Park, Newbury, Mount Okmok, Valles and Yellowstone. There are a few more, but you get the idea.

Remember all of those Alaskan earthquakes I mentioned? Guess where the April 1, 1946 quake in the Aleutian Islands, Alaska that killed 165 was located – Andreanof Islands, Alaska. The Andreanof Islands are a group of islands in the Aleutian Islands in southwest Alaska between the Rat Islands group, to the west and the Fox Islands group, to the east, at about 52° North and 172°57' to 179°09' West. The islands extend about 440 km (275 miles). The largest islands in the group, from west to east, are: Gorelei, Amatigras, Tanaga, Kanaga, Adak, Tagalak, Great Sitkin, Atka, Amlia and Seguyam.

The islands are usually foggy and are treeless because of the almost constant wind. They were named for the Russian navigator, Andreian Tolstyk, who was the first to explore the islands in 1761. There were several United States military bases on the islands during World War II. The bases on Adak were enlarged and made permanent after the war but were closed in 1995. Sorry, the earthquakes weren't at the location of that particular Caldera. However, Alaska has 45 volcanoes. The Caldera is on the Alaskan Peninsula.

Do you remember the movie called *Dante's Peak* (1997)? Most of the film's exteriors were shot in Wallace, Idaho, and *Dante's Peak* and surrounding scenery were then digitally added. They called the robot SpiderLegs in the movie and it was only a model.

All a person had to do understand the eruption of the Long Valley Caldera several years earlier was to look at the map on page 5 of the pdf file put out by the USGS.

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Under the rule of threes, Ray had one to go and Steve was finished. Dr. J said today that the only thing that kills Ebola is Ebola, e.g., the virus is self-destructing. It is so virulent that it even kills itself. But if you get it, you're probably going to die. $132 \div 140 = 94\%$

Arnold Rothstein is remembered by students of crime as the so-called mastermind of baseball's worst gambling disgrace, the Black Sox scandal of 1919 when the World Series was fixed. Rothstein was a multimillionaire gambler, but he was much more than that. Indeed, he stands as the spiritual father of American organized crime.

Rothstein, the Brain, self-destructed. Gambling obsessed him and he bet compulsively. He made huge bets, won some and lost more. In 1928, Rothstein played in one of Broadway's most fabulous poker games, one that lasted nonstop from September 8 to 10. At the end, Rothstein was out \$320,000. That Rothstein could lose shocked the wise guys of Broadway, but not nearly as much as the fact that Rothstein welshed on the debt. He declared the game had been fixed.

On November 4, Rothstein was murdered at the Park Central Hotel. The prime suspects were the two California gamblers who had beat him in the game, Nigger Nate Raymond and Titanic Thompson. The case was never solved, and there have long been reports that the debt was merely a cover for the real motive of the murder, that an ambitious Dutch Schultz saw a chance to increase his own empire vastly by knocking off Rothstein.

David Janssen played Arnold Rothstein in the movie *King of the Roaring 20's - The Story of Arnold Rothstein* (1961). The odds on drawing a Royal Flush are 1 in 649,739. In the movie, the last hand of cards Arnold Rothstein ever drew was a Royal Flush. Then, they killed him. That sounds about the odds that Yellowstone will blow in 2017. Do you think? Is Yellowstone going to blow and everyone die? The good news was that they now had a measurable interval of Long Valley Caldera eruptions.

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They had to revise the order of the worst disasters, too. They'd completely forgotten about the Asian flu epidemic of 1957 that had killed 1 million persons worldwide and 70,000 in the US. There was a big scare back in 2005 when somebody accidentally sent samples to several labs. They didn't include the Asian flu vaccine in the regular flu vaccine they distributed every fall. And with the final death count in from the Long Valley eruption and the Las Vegas bombing, they had to revise everything. Long Valley killed 125,000 and that 1kt bomb ended up getting about 7,500 incorrigible gamblers.

2017 was a very bad year because half a dozen volcanoes were swarming and there were still 8 1kt Russian suitcase bombs floating around somewhere in the country. The economy was back in the toilet, again probably due to the rising price of oil. Congress was determined that they could buy their way out of trouble, again, and they adopted a new set of incentives for fuel efficient vehicles. The Japanese seemed to have the edge there, but relations with Japan were strained because of America's new isolationism. They'd sold off the business to good old George. George wasn't doing so well running the business all by himself. George was seriously behind on his payments to Ray and Steve.

"What are we going to do to get George out of his mess so he can make his payments?" Ray asked Steve.

"I guess we could always come out of retirement and help him complete the new development," Steve suggested.

"I'd rather play golf," Ray replied. "You're right, we don't really have a choice, do we?"

"It will be good to have the two of you out of the house," Susan said. "June and I have had about all of the quality experiences we can handle."

George had decided to duplicate the previous 6-phase project, only with more affordable homes. He'd done some downgrades and made the houses a little smaller. But he was having trouble selling the houses because he'd downgraded them too far. Ray saw the problem and they went back and upgraded the hardware in the homes. That cut into George's margin but the homes started selling. And rather than deal with complaints from the owners of the homes that George had already sold, they upgraded them for free. The free upgrade had won over the customers and they started to say nice things about their homes instead of bitching. That, in turn, improved the market and George raised the prices on the new homes to cover the cost of the upgrades.

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Only type A viruses are known to cause pandemics. Type A viruses are further divided into subtypes based on the specific hemagglutinin (H) and neuraminidase (N) proteins on the virus surface. Currently, two subtypes of A viruses are in worldwide circulation: H3N2 and H1N1. The emergence of both of these subtypes in the 20th century led to separate pandemics. For example, the 1918 pandemic resulted from the emergence and spread of the H1N1 virus while the 1968 pandemic was associated with the H3N2 virus. The 1957 pandemic was associated with the emergence and spread of the H2N2 virus, however, this virus subtype stopped circulating in 1968. Pandemics are believed to have occurred for at least 300 years at unpredictable intervals.

Several epidemiological features distinguish pandemic influenza from seasonal influenza. Pandemics of influenza are unusual events and their timing cannot be predicted. For

example, only three pandemics occurred in the 20th Century (1918, 1957, and 1968). The infrequency and unpredictable timing of these events is explained by the fact that influenza pandemics occur only when a new (or novel) influenza A virus emerges and spreads globally. By definition, most people have never been exposed to these viruses and therefore are susceptible to infection by them. By contrast, seasonal influenza virus strain variants are modified versions of influenza A viruses that already are in wide-spread circulation. Therefore, there usually is some level of pre-existing immunity to strain variants. Because of the frequent appearance of new variants, virus stains contained in influenza vaccines must be updated annually.

There were several serious outbreaks of influenza in the 20th century. The most famous (and the most lethal) was the Spanish Flu pandemic (type A influenza, H1N1 strain), which lasted from 1918 to 1919 and is believed to have killed more people in total than World War I. Lesser flu pandemics included the 1957 Asian Flu (type A, H2N2 strain) and the 1968 Hong Kong Flu (type A, H3N2 strain). Although there were scares in New Jersey in 1976 (the Swine Flu), worldwide in 1977 (the Russian Flu), and in Hong Kong in 1997 (Avian influenza), there have been no major pandemics subsequent to the 1968 infection. Increased immunity from antibodies and the development of flu vaccines have limited the spread of the virus and so far prevented any further pandemics. That about covers pandemics.

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There is a point to all of this. At any given moment there are dozens of disasters just waiting to happen. It could be a hurricane, a tornado, and earthquake, volcanic eruption, landslide, Russian suitcase nuke or even something as simple as the flu. How do you prepare for every possible disaster? You can't, completely, because even an auto accident is a disaster if you're in the accident. You have 2 choices: be an ostrich or try and be a good little Boy Scout. Half the world lives on rice and vegetables. You can too, if you try. If you need some protein, add some beans and a can of air freshener. A 20 pack of N-95 filters only costs about \$10. N-100 filters cost more, but what is a life worth? Don't forget to get the flu shot every fall, the WHO might have guessed right for a change.

You'll need some sort of permanent shelter and someplace to bugout to in case the permanent shelter isn't the best choice. What's the difference, you say? Who would want to live after a major disaster like a nuclear war? Do you have a family and responsibilities? What about them? Are you going to let them die because you don't believe life is worth living? It's against human nature because human beings are natural survivors. The odds are you'll never see Ebola in the US again unless it's an engineered virus intended to wipe out the population. Ebola Reston wasn't fatal to humans. Your disaster could be an economic disaster like you lose your job. Been there, done that, got the T-shirt. Lost the job, had the car wrecks, lived through earthquakes and a tornado. Didn't get the Hong Kong Flu or the Asian Flu, must have gotten lucky. Don't forget the asteroid popping out from behind the sun or La Palma's Cumbre Vieja sliding off into the ocean.

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GENEVA – Countries around the world were destroying vials of a nearly 50-year-old killer influenza virus Wednesday that were sent to thousands of labs as part of a routine test kit, raising fears of a global pandemic.

The World Health Organization said Canada, South Korea, Hong Kong and Singapore had already destroyed their samples, while Japan was doing the same. Taiwan and Germany also announced that they had destroyed all their vials.

Nearly 5,000 labs in 18 countries or territories – mostly in the United States – received vials from a US company that supplies kits used for internal quality control tests. News that the vials had been sent to the labs was first reported by The Associated Press.

The germ, the 1957 H2N2 “Asian flu” strain, killed between 1 million and 4 million people. It has not been included in flu vaccines since 1968, and anyone born after that date has little or no immunity to it.

“The goal is to make an inventory on Friday,” said the WHO’s influenza chief, Klaus Stohr. “We are relatively confident considering the response we received from the ministries of health that the international laboratories will be done on Friday. We will see how far the American laboratories have come.”

Countries were urged by the World Health Organization to destroy samples of the dangerous virus because of the slight but real risk it could trigger a global outbreak.

“The risk is low and we’ve taken appropriate action,” said Dr. Nancy Cox, chief of the influenza branch at the Centers for Disease Control and Prevention in Atlanta.

White House press secretary Scott McClellan said the President has been briefed on the distribution of the flu virus. He said the CDC and the Department of Health and Human Services are working to address the problem and it is “a high priority for our government.”

“They have assessed that the risk to the public from these samples is low,” McClellan said. “Nevertheless, we do not want to take any chances, and that’s why the Centers for Disease Control are working with these laboratories and the world health organizations as well. And we’re notifying the laboratories that these samples need to be destroyed immediately.”

“What we’re asking is that if anybody sees any suspicious illness that it be reported immediately,” he said.

Outside the United States, labs in Canada, Brazil, France, Germany, Japan, Belgium, Bermuda, Chile, Hong Kong, Israel, Italy, Lebanon, Mexico, South Korea, Saudi Arabia, Singapore and Taiwan received the kits.

In the United States, the inventory is being taken by the College of American Pathologists and for the moment, WHO said it was unsure how many samples had been destroyed there so far.

Stohr said the company, which sent out the virus samples – Meridian Bioscience Inc. of Newtown, Ohio – abided by current US regulations.

“At the moment, H2N2 is classified as a BSL2, or biosafety level 2, pathogen,” he said. “They are allowed to (send it out as part of a test kit).

“They sent it properly packaged, they informed the recipient; they only became aware after the whole matter was better understood that (the US Center for Disease Control and Prevention) is working on a change in the biosafety level for H2N2.”

A spokesman for Meridian said company officials were traveling and not immediately available for comment. However, the firm issued a quarterly earnings statement Wednesday referring to the flu issue and saying Meridian has “a long history of supplying samples” and “believes it has been and is in compliance with all applicable regulations.”

Viruses are classed according to the level of lab safety precautions that must be taken when handling them. Routine viruses can be handled in labs with a basic level of biosafety protection. However, very dangerous viruses, such as Ebola, can only be handled at labs with top-level safety measures. Those labs have a biosafety level of 4.

The 1957 flu virus has for years been a level 2 virus, but many countries have upgraded it to a biosafety level of 3 because so many people have no immunity to it.

The kits contain blind samples that labs must correctly identify to pass the test. The influenza virus included in the kits typically is one that is currently circulating or has recently circulated.

A Canadian laboratory detected the 1957 pandemic strain on March 26 in a sample that was later traced to a test kit.

The WHO notified health authorities in countries that received the kits and recommended that all samples be destroyed. The College of American Pathologists asked labs to incinerate the samples immediately and confirm their actions in writing.

The virus' presence in thousands of labs focused fresh attention on the safe handling of deadly germs – an issue that led to toughened US rules after anthrax was sent in the mail in 2001, killing five Americans.

Cox said officials strongly doubt someone deliberately planted the dangerous germ. "It wouldn't be a smart way to start a pandemic to send it to laboratories because we have people well trained in biocontainment," she said.

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You don't have to go looking for trouble; it will find you. Did you notice that even that stupid mistake got out some of the Conspiracy Theorists? Who cares when gas is \$10 a gallon and a loaf of bread costs \$4.80? Did your wages keep up with the rising cost of living? Are you on a fixed income eating rice and vegetables and walking to the grocery store? Can't afford your medicine anymore?

UNITED NATIONS (AP) – The UN General Assembly approved a global treaty Wednesday aimed at preventing nuclear terrorism by making it a crime for would-be terrorists to possess or threaten to use nuclear weapons or radioactive material.

A resolution adopted by the 191-member world body by consensus calls on all countries to sign and ratify the "International Convention for the Suppression of Acts of Nuclear Terrorism." The treaty will be opened for signatures on Sept. 14 and must be ratified by 22 countries to come into force.

"By its action today, the General Assembly has shown that it can, when it has the political will, play an important role in the global fight against terrorism," US deputy ambassador Stuart Holliday told delegates after the vote. "The nuclear terrorism convention, when it enters into force, will strengthen the international legal framework to combat terrorism."

Russia's deputy UN ambassador Alexander Konuzin, whose country sponsored the resolution, hailed its approval.

That will solve everything, won't it?

Title 18 – Chapter 10 – Next?

Steve and Ray really wanted to buy Hummers. The problem was that the Hummer wasn't big enough to haul their families and the Nanny's and Housekeepers who were, by now, part of their extended families. Instead, they bought some of those vans that held a lot of passengers. Fifteen passenger vans include the Chevy Express E3500, Ford Econoline E350, Ford Clubwagon E350, Dodge Ram Wagon B350, Dodge Ram Van E350, GMC Savana G3500 and the GMC Express 3500. Fitted with dual rear wheels and the Roadmaster Active Suspension System, the vans finally overcame the rollover problem. Some of the vehicles were available with diesel engines.

Equipped with the largest diesel available, a towing package, auxiliary aftermarket fuel tanks, etc. the vehicle made the perfect bugout vehicle for a large family. Add a large tandem axle trailer with plenty of storage space and you were ready to go anywhere. Where is the safest place to bugout to in the US? It sort of depended upon what you were running from, but taken as a whole, Reno, NV, if you were running from volcanoes, hurricanes or tornados. There are only a few earthquakes in the Reno area. On the other hand, why bugout at all? Why not just build a new home in Reno?

George had managed to turn around the business with their help and he decided that it was a good time to unload the business before another housing slump. George built 3 homes up in Reno, sold the business and they all moved to Reno and lived happily ever after... until the next disaster came along.

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There is a disaster every minute of every hour of every day of every year somewhere in the United States. It might be something as simple as that auto accident. It might be something as serious as one of those super volcanoes erupting. They do that with some degree of regularity, you know. If you've moved to your bugout city, where are you going to go when that becomes untenable? You could dig a hole and pull the dirt in after you. Or, you could build a cabin up in the mountains away from everyone. Hell, build 3 cabins and put in solar panels and wind turbines and a fancy bomb shelter, it's only money. Put in an extra set of radios so when TSHTF you can call the rest of the world on the ham bands and find out if anyone else survived.

Atlanta (AP) – The CDC announced today that a new epidemic is making an appearance. The influenza like symptoms include fever, headache, extreme tiredness, dry cough, sore throat, runny or stuffy nose, and muscle aches. Tests are underway to determine the exact strain, but the virus outbreak has claimed several lives in Philadelphia and New York.

An unnamed source at the CDC said they hadn't seen anything like this since the Asian Flu pandemic of 1957. The individual went on to say, "What we're asking is that if anybody sees any suspicious illness that it be reported immediately."

“Have you had your flu shots this year?” Ray asked Steve.

“We never miss, why is there a flu outbreak?” Steve asked.

“I saw something in the Gazette-Journal about something going on in Philadelphia and New York,” Ray replied.

“It’s flu season so I’d guess it should be expected,” Steve suggested.

“This variety is killing people,” Ray pointed out.

“I wonder if George and his wife got their flu shots.” Steve said.

George had met a Mormon lady, a widow. She was of the old school and didn’t think that there was anything wrong with George being a little prepared. Although the Church taught that people were supposed to have food put away against a calamity most Mormons in 2017 had gotten away from the practice. They got married and Sarah fit right in with the survivalist group. When Steve checked with them they had their flu shots too. It was just a matter of waiting and seeing what strain of flu was going around until the 3 couples knew how they were going to react. Maybe spending those 2 years alone in Ray’s shop had taught George a lesson, or maybe it was Sarah’s influence. The bottom line was George was going to empty out his shelter and move everything to his cabin in the mountains.

“Personally, George, I think you’re being alarmist,” Steve pointed out.

“Sarah said to take the stuff up there and I know better than to argue with her,” George replied.

“I’ll talk to Ray,” Steve responded, “Maybe we should do the same thing.”

“Do whatever you please, Steve,” George announced. “I’m going.”

“What’s going on?” Ray asked.

“I’m packing my stuff and moving it to the cabin,” George replied.

“Steve, I think that we’d be well advised to do the same thing,” Ray suggested.

“Have they identified the strain of flu?” Steve inquired.

“I haven’t heard one way or another,” Ray replied. “The thing is we have so much stuff to move it will take three trips. We both have an 18-year supply of the Mountain House stuff and that 5-year supply from Walton Feed. It’s going to take 3 trips, minimum.”

"I always thought it was silly to have that much food in the first place," Steve shook his head. "If we move, let's just leave it at the cabin and replace it rather than dragging it back here in 3-4 weeks."

"If we load the vans, we can do it in maybe two trips," Ray argued.

"Alright, I'm convinced," Steve answered. "Let's move the stuff."

The next morning they loaded the trailers and the vans and hauled as much stuff to the cabins as they could carry. It was dark by the time they got back to Reno. Susan, Sarah and June were waiting and they had their suitcases packed. The CDC in Atlanta had identified the flu strain as H1N1, Spanish Flu. The current immunization offered absolutely no protection against the stain and there hadn't been an outbreak since 1918. There probably weren't more than a handful of people in the entire world who had immunity against the Spanish Flu. The 3 men and their wives loaded the remainder of their things and headed for the mountains with their families.

"We're going to need some money if we have to stay here very long," Steve pointed out.

"The three of us can run into Reno and clean out our bank accounts, Ray suggested.

"That won't help much," Steve said. "They probably won't give us over \$5,000 apiece."

"We can go to the gold exchange and buy gold and silver and pay for it with a check," Ray pointed out. "It's not like we don't have the money in our accounts."

The gold exchange limited their purchases to \$100,000 each. The bank gave them \$10,000 each. The 2 men still had the Maple Leafs and rolls of silver from ten years before when Long Valley went boom and it wasn't worth risking another trip to Reno to get any more money. All 3 of them thought that this epidemic would pass. On the trip into Reno, they learned that the school system had closed its doors to prevent spread of any possible infection. People gave them funny looks because they were wearing those 3M N-100 masks. They called the doctor's office and persuaded him to call in prescriptions for enough Cipro and their medications that they could get by for a couple of months in the mountains, if necessary.

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In a report today, the CDC reported that people are ignoring warnings to stay at home, the announcer said. School systems have been closing since the beginning of the week, ever since the CDC announced that the flu strain was H1N1, the Spanish Flu. It is believed that the early closing of the school systems has prevented a widespread outbreak so far. In Europe, Asia and Africa thousands have been infected by this virus strain. The last outbreak on any scale of this particular strain of virus was 100 years ago during the winter of 1918 and spring and summer of 1919.

"I wonder why people aren't staying home," George asked, turning off the TV.

"Probably because they have to eat, George," Steve replied. "Remind me to give Sarah a great big hug for making you move your stuff to the cabin. I wonder why it took them so long to identify the particular strain of flu?"

"There are something like 35 sub categories of H1N1 according to that report I saw on TV," Ray said. "They are all Influenza type A but each one requires a different and specific antibody. They can't tell what type of flu it is until they can run gene sequencing. And, there's a potential for 144 possible combinations of Influenza A."

"This isn't anything like I thought a pandemic would be," Steve continued.

"What did you expect? People dropping dead in the streets?" Ray asked.

"I don't know what I expected, partner," Steve replied. "I didn't expect them to shut down government offices and tell everyone in the country to stay home."

"They have to do something to stop the spread," Ray suggested. "Most people wait until the last minute to do anything. If they only had the sense to spend ten bucks on a package of N-95 facemasks, a lot of this could be avoided. That and keeping just a little food on the shelf so they could avoid going to the store for a couple of weeks."

"How long do you think we're going to need to stay in the mountains?" George asked.

"I don't know, what do you think Ray?" Steve responded.

"Maybe 4-6 weeks," Ray replied. "It depends on how quickly the virus dies out. A virus requires a living host to survive. Thirty days after it no longer has a host, it's gone."

"A virus makes use of existing enzymes and other molecules of a host cell to create more virus particles. Viruses are neither unicellular nor multicellular organisms; they are somewhere between being living and non-living. Viruses have genes and show inheritance, but are reliant on host cells to produce new generations of viruses. Many viruses have similarities to complex molecules. Like DNA, viruses undergo molecular replication and they can often be crystallized. Because viruses are dependent on host cells for their replication they are generally not classified as living. Whether or not they are alive, they are obligate parasites, and have no form, which can reproduce independently of their host. Like most parasites, they have a specific host range, sometimes specific to one species (or even limited cell types of one species) and sometimes more general," Ray explained.

"I saw it on TV. Viruses form when molecules are assembled from organic compounds providing complex, microscopic structures, which have the potential for self-assembly, and thusly they have large implications in the study of the origin of life. In the debate of whether viruses are alive or not, if the requirement for autonomous self-reproduction is

abandoned, it can be strongly argued that viruses are indeed alive. Some small viruses are more efficient than most cellular life forms as their ratio of functions to working parts is so high. If viruses are alive then the prospect of creating artificial life is enhanced or at least the standards required to call something artificially alive are reduced.”

“Interesting,” Steve said.

“I’m not done, Steve,” Ray continued. “Filoviruses are viruses belonging to the family Filoviridae, which is in the order Mononegavirales. Those viruses are single stranded negative sense RNA viruses that target primates. There are two genera, the Ebola (Ebolavirus, with four species) and the Marburg (Marburgvirus). The virions (viral particles) are characteristically shaped as long, cylindrical, filamentous particles which may be straight, curved, coiled, or found in a “6” or “U” shaped configuration. They are occasionally branched and the particles vary greatly in length but the diameter (about 80nm) is consistent. They are produced by budding from an infected cell, and consist of the viral RNA strand and proteins encapsulated in a lipid membrane formed from the host cell’s plasma membrane. The four types of Ebola are: Ebola–Zaire (EBO–Z) and Ebola–Sudan (EBO–S), Ebola–Reston (EBO–R) and Ebola Côte d’Ivoire (EBO–CI).”

“You’d better stop watching TV,” Steve suggested, “That’s scary.”

“There was an outbreak in Angola in 2004 and 2005,” Ray explained. “By April 13, 2005, Angola’s health department reported it had spread to 7 of 18 provinces and 210 of 231 known cases had been fatal. It reached 100%, everyone who got it died. The life expectancy in Angola is only 36.79 years at birth.”

“Hell, I have a pair of shoes older than that,” George shook his head. “Why don’t we put the TV back on and see if they have anything more?”

...despite calls from the White House to remain home until the epidemic passes. The Spanish Flu epidemic killed an estimate 500,000 people in the US and 40 million persons worldwide. The population in 1910 was 91,641,195, but had increased to 105,273,049 by 1920. Estimates put the death rate at 0.54% of the country’s 1910 population. If that were to hold today, the US death toll could approach 1.7 million. The 1910 worldwide population estimate was 1,750,000,000, making the world death toll 2.28% of the world population. Applied to the present population that suggests that the world could expect a loss of life as high as 137.1 million people.

“Fellas, we’re sitting tight until this thing is over,” Ray insisted turning down the TV volume. “If they can develop or already have developed a vaccine, it could take several months until they could get everyone vaccinated. Remember the vaccine shortage back in 2004 or 2005? At that time it took about 5 months to have a vaccine ready for distribution.”

“I thought that I read somewhere that they had a faster procedure,” Steve said.

"It's not much faster," Ray replied. "They'd still have to produce and distribute the vaccine. If the entire world is involved, we could really have a problem. The US wouldn't be entitled to more than a share of the new vaccine."

"I think I see another problem," Steve suggested. "Everything in the grocery stores is delivered by truck. What's going to happen when a bunch of those truck drivers get sick? You're talking about possible major shortages."

"But we're ok aren't we?" George asked.

"Only until someone figures out that we have enough food to feed our group for 2-3 years," Ray replied. "Have you ever shot an M16, George?"

"I wasn't in the army," George admitted. "By the time I was old enough, it was strictly voluntary and I never volunteered."

"Maybe it's time you learned," Steve suggested. "We have more rifles than we really need. I get you an M16A4 with magazines and ammo."

"A machinegun," George said wide-eyed. "Is that legal?"

"For a while now, George," Ray explained. "They changed the law a few years back. When the military adopted the M8 rifle they began phasing out the M16s."

"Is that what they have now?" George asked.

"Some, it was partially replaced starting in about 2009," Ray replied. "They're still working on the XM25, a second barrel for 25mm ammo."

"Sarah has some firearms," George pointed out. "They belonged to her first husband. She told me that he was pretty old fashioned and was really into preparedness."

There were 10 adults, including the hired help, and 10 children holed up in the cabins near Honey Lake in California, downwind of Mt. Lassen. They had everything they needed including food, utilities, weapons and time. They remained at the lake far longer than planned because no one was getting a handle on the epidemic. The first estimates of possible deaths were passed, revised and passed again. The governments were doing everything in their power to solve the problem, but it took time. They needed a lot of doses of the flu vaccine. In the United States the President ordered commercial aviation grounded and the public transportation system shut down. Military personnel were used to supplement food deliveries to communities. Manufacturers of N-95 masks were running 24/7 trying to meet the demand.

People with the flu vaccinations from the previous fall had enough protection that they didn't die. They got extremely ill and burdened the healthcare system to its limits and beyond, causing the system to breakdown. It was like watching the WTC fall, only in

slow motion. The government was caught between the rock and a hard spot; telling people not to go to work to prevent the spread of the contagion and having people go hungry because they didn't have money to buy food. They cranked up the printing presses and the federal debt soared another trillion dollars while the government distributed the available food, masks and other necessities. As the new vaccine became available it was distributed first to the military healthcare workers. In the United States the death toll passed 4 million people. Worldwide, all they could do was guess, but the number sounded a lot like a billion. Viruses mutate and the Spanish Flu had mutated into something even more virulent. CDC had to start from scratch developing that new vaccine.

In cities where people were concentrated and lived in multifamily buildings there was little that could be done to halt the spread of the influenza. The military couldn't maintain the food distribution and food rioting began to break out in the spring when food ran low and people had been cooped up for longer than they could bear. Tempers flared and people forgot to wear their masks. Remnants of the virus lingered and even more people became ill. Most of the supply of flu vaccine was prepared in Europe, not in the US. The policy of isolationism came back to bite the US on its collective hind end.

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"We were better off when the Caldera blew its top," Ray observed. "This has turned into a runaway train going downhill and gaining speed."

"We're safe here," Steve suggested.

"For how long, partner, you remember Truckee don't you?" Ray asked. "We thought we had the world by the tail with our cabin in the woods; they burned that down, remember? Half the networks are off the air and it won't be long before they're all gone. Most disasters happen in a moment of time and people spend time cleaning up after. This disaster just keeps building."

"It can't go on forever," George suggested. "When it's over we'll start the cleanup, the same as always."

"We've been here 7 months, George," Ray pointed out. "It's worse out there now than when we came to the cabins."

"Maybe, but we have everything we need," George suggested.

"We don't have any of that new flu vaccine," Ray countered. "And to tell the truth, I don't know if we should run the risk of going after it. We're so far off the beaten path here, that 99 out of 100 people would never find this place. Even if the military eventually starts distributing the vaccine, they'll never come here. That means that we're going to have to go to them."

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Amedee Airfield is in excellent condition. In early 1998, the Nevada Air National Guard began using the airfield. The Guard will construct a 2,500 square foot secure storage area and install an AWOS system. Eventually, the Guard plans to re-certify the instrument approach at the airfield. The runway is 7,168 feet long, 150 feet wide with marginal Army Combat System lighting, and limited electronic landing aid equipment. It was resurfaced in 1996. The LRA has hired a contractor to assess the feasibility of converting the airfield to civilian reuse. Proposed use of this parcel includes, use as a civilian airport facility, airport-related industrial uses, and general industrial uses.

The undeveloped surrounding areas make this an ideal location for new industries. The parcel contains 2300+ acres available for development. A parcel of vacant land containing 640+ acres has been transferred to the Federal Bureau of Prisons. The proposed use is construction of a facility to house 1200 inmates. This will provide approximately 500 jobs during construction and approximately 300 permanent jobs at completion.

Located 55 miles north west of Reno, NV, and 40 miles south west of Susanville, CA, Sierra Army Depot is in the highest desert plain east of the Sierra Nevada Mountains at an elevation of 4,200 feet. The high desert plain is only sparsely developed. It is best characterized as having flat or gently rolling terrain dominated by sagebrush. The Honey Lake Valley is immediately east of the Sierra Nevada mountain range. The mountains form a barrier to storm systems that moving eastward from the Pacific. Located in the rain shadow of the mountain range, the valley climate is arid, with low relative humidity and precipitation. Annual precipitation is low, averaging 5.6 inches. Temperatures remain moderate in summer and winter. What's there about Lassen County?

The base is located in an arid area, adjacent to two railroad lines – the Southern Pacific and Union Pacific Railroads, which merged in July 1995. There are 59 miles of railroad track on the base. The main base covers 32,292 acres including 165 units of housing, 3 schools, credit union, barbershop, theater, chapel, an airfield with a 7,168 foot runway, and some administration buildings. The “industrial” portion of the base, which will be retained by the Army, includes several very large warehouses. The Army also owns a 4,030-acre parcel on a mountainside, which is separated from the main base by land owned by the Bureau of Land Management (BLM). It is currently used for ammunition demolition. The base also includes the 60,000-acre Honey Lake, which at one time belonged to the State of California. The State retains reversionary rights to the property and the State Lands Commission, in a letter dated September 11, 1996, and has agreed to accept the land following the successful completion of environmental restoration.

The area directly outside of the gate of Sierra Army Depot is the unincorporated community of Herlong. This is composed of several small businesses and West Patton Village, a 1950 Wherry housing project for SIAD employees. This contains 155 homes and several hundred residents. SIAD is located at 40.273°N, 120.117°W.

Nice area for a bugout place right? Just around the Lake from an Army munitions disposal facility. They were above Honey Lake, to the west, in the Sierra Nevada mountain range. It was maybe 60 miles, give or take, north of Truckee and maybe 50 miles, give or take, east-southeast of Lassen Peak. They were still in Lassen County, but just barely. The cabins were off a fire road that ran north off Janesville Grande Road.

The Honey Lake Valley region is a part of the Basin Ranges geomorphic province. Honey Lake Valley is a graben wedged between the northern end of Sierra Nevada granitic mountains, and the southern end of Modoc Plateau volcanic terrane. Spectacular faults form the Sierra Nevada front and bound the Fort Sage Mountains block at the southeast end of the valley. Displacement along the Honey Lake fault zone is thought to be at least 2,000 feet. The presence of tufa-building hot springs along the northeastern edge of the valley suggests the hidden extent of province bounding faults.

Physiographic features of Honey Lake Valley are typically Basin Ranges, but the lithology is characteristic of the Sierra Nevada province to the south and the Modoc Plateau province to the north. Mountains west and southwest of Honey Lake Valley are composed of Mesozoic granitic rocks ranging in composition from granodiorite to quartz diorite. Tertiary volcanic rocks overlie the granitic rocks. The Fort Sage Mountains are similarly composed of Mesozoic granitic rocks overlain by Tertiary volcanic rocks. The mountains north of Honey Lake Valley are formed principally of Pliocene andesitic and basaltic rocks typical of the Modoc Plateau region.

The Honey Lake Bass Club is located in Susanville, CA. with members ranging from the Reno and Sparks, NV area to Sacramento. West Coast Bass rules apply during the 10 – 12 team tournaments per year at Shasta, Oroville, Clear Lake, Almanor, Antelope and other lakes. If you're looking for a nice place to go camping Honey Lake Campground is a good choice. Honey Lake Campground is a good place to camp in California; there are plenty of things to do while camping at Honey Lake Campground. So says the advertisement.

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This sure was a great location to bugout to; down the road from Lassen Peak and sitting on an earthquake fault. Maybe that explained why the land was so cheap. The well driller had one hell of a time drilling a well, too. But, eventually, he found water. On the other hand, there were fish in the lake and the cabins were well off the beaten path. The lake was a couple of miles away on the other side of the road, and they weren't into fishing for the fun of it. The 3 men seined for fish and threw back the small ones. The fish made a nice addition to their diet. It occurred to them that they had a lot of meat sitting in their freezers down in Reno and a steak got to sounding awfully good.

Thus 8 months after moving up to the lake, they headed back to Reno to get their freezers. They were able to squeeze an upright and a chest type freezer into each trailer and the portable generators kept the freezers powered. They didn't get anywhere near downtown Reno, but their housing development was a virtual ghost town. The gate to

the development was standing open. The guard was gone, heaven only knew where. Their houses hadn't been vandalized so they decided after loading to take a pass through Reno and see if there were people there. The bullet hole in the windshield of Ray's van neatly answered that question. Whoever did the shooting missed, but it wasn't for the want of trying to stop the van. They got far enough out of Reno on those run-flat tires to find a safe spot to pull over.

"What the hell was that all about?" Ray asked. "Did either of you see who was shooting?"

"Nope. Let's get that tire changed and get the hell out of here," Steve replied.

"Hold on a minute fellas," Ray held up a hand. "As long as we've come this far is there anything that we need before we return to the cabins?"

"We still don't have the vaccine," George pointed out. "How about we check at the armory?"

"Where's the armory?" Ray asked.

"The Washoe County Armory is located at 19980 Army Aviation Drive up by the Reno/Stead Airport," George replied.

"What kind of a unit is it?" Steve asked.

"Signal Corps," George replied. "Even if there aren't any soldiers, there might be something there we can use. If the Guard Unit is there, maybe we can get the vaccine."

"I guess it's worth a try," Ray agreed.

They didn't find any troops at the Armory but they found a few other things, some they could use and a lot they couldn't. They got SINCGARS radios sets and antennas for each cabin so they could monitor the military frequencies. There were M8s but they already had enough of the M16s. They did take 6 M203s and about 144 rounds of ammo for the grenade launchers. It was an assortment that included HE, HEDP, flare and smoke rounds. The only other thing they took was some ammo for a M249 SAW. They didn't find the SAW, itself, but they figured they could always unlink the ammo. The ammo was the M995AP. The M995 and M993 AP cartridges are required to have better penetration capability than the standard M855A1 and M80 ball rounds, especially improved capability to penetrate lightly armored vehicles at extended ranges. The primary intent is to improve incapacitation against troops within lightly armored vehicles. All available test data indicate that the M995 and M993 meet these requirements, and were effective in a combat environment. Some of rounds were M856 tracers. When tracer rounds are fired, they are mixed with ball ammunition in a ratio of four ball rounds to one tracer round.

If run-flat tires perform nearly as well un-inflated as they do inflated, how do you know if your run-flat tire has a “flat” (so to speak)? Every car with run-flat tires must be equipped with a tire-pressure monitoring system, which alerts the driver - via sight or sound - if it detects low tire pressure. Beginning in 2006, tire-pressure monitoring systems became mandatory on all new passenger vehicles sold in the US - which in turn made run-flat tires more widely available.

Currently, there are two types of “run-flat” systems: self-supporting and Michelin’s PAX system.

“Self-supporting” run-flats, which have super-strong sidewalls capable of supporting an un-inflated tire, are the most commonly used by tire makers, including BF Goodrich, Bridgestone, Dunlop, Firestone, Goodyear, Kumho, Michelin, Pirelli and Yokohama. Michelin’s PAX system uses an inner ring (instead of stiff sidewalls) to support the tire in the event of lost air pressure, allowing the vehicle to travel at 55 mph for up to 125 miles. A specially designed bead prevents the deflated tire from separating from the wheel even when going through autocross-style maneuvers. In addition to sparing drivers the inconvenience and dangers of flat tires, PAX tires create less rolling resistance than radials, resulting in better fuel economy. Firms that did repair them charged up to \$45 to make the repair. However at \$350 per tire, the repair was cheaper than replacing the tire and the tires were a whole lot safer.

Title 18 – Chapter 11 – Hunting the Vaccine

“Did you get the freezers?” Susan asked.

“We’re having steak tonight, honey,” Steve smiled. “We also got shot at when we went through Reno.”

“Anyone get hurt?” June asked.

“Ray’s windshield has a nice big hole and so does one of his run-flat tires,” Steve explained.

“What can we do about the tire?” she asked.

“There are 3 tire companies in Susanville,” Steve replied. “We’ll take a run up there tomorrow.”

Ray and Steve had the Michelin PAX run-flats and George had the self-supporting tires made by Goodyear. The advantage was they could have avoided stopping and changing the tire altogether in an emergency. It also meant that they needed to go to a major tire dealer to get a good repair. They could have waited because they each had 2 full-sized spares, but why take the chance? Besides, Ray needed a new windshield and some body putty to patch the holes. Maybe they could find vaccine in Susanville.

“What did you get into?” the fellow at Lassen Tire asked.

“Downtown Reno,” Ray chuckled.

“You want just the tire or do you want me to replace the windshield?” the dealer asked.

“Both, thanks,” Ray said. “Have anyone who could patch the holes?”

“I can get someone, but he can only put on some body putty,” the dealer said. “You can come back later or you can sand down it yourself.”

“How about I leave it be and have your guy sand it the next time we get up here?” Ray asked.

“Suit yourself,” the dealer said. “Are you from around here?”

“We’re from down in the area of Honey Lake,” Steve answered. “We went back to Reno to pick some of our things.”

“Nobody hurt, I hope,” the dealer, Tim, replied.

“We were lucky, Steve replied.

“I’d say so,” Tim smiled. “We’ve heard a couple of bad stories about Reno.”

“Is there anywhere in Susanville we can get the new flu vaccine?” George asked.
“We’re awfully tired of wearing these masks.”

“The Army came through a while back and vaccinated everyone,” Tim said. “You can check at the medical clinic to see if they have more vaccine, but I doubt they will.”

They didn’t but the Army was supposed to come back in a couple of months. They got refill prescriptions for their medications. The body man used fast-drying putty and by the time the tire was repaired and the windshield replaced, he’d knocked off the first coat and applied a second coat. He told Ray that he have to come back to get the holes primer and painted. Ray had a can of black primer at home and he wasn’t going to go all the way back to Susanville for the paint; he was going to get a different vehicle.

Susanville is located in Lassen County, California at 40°25’2” North, 120°38’46” West (40.417092, -120.646014). Sacramento is located in Sacramento County at Latitude: 38° 31’ N. – Longitude: 121° 30’ W. They tried Sacramento next and got lucky. A single vial of the vaccine held 10ml. The standard dose was 0.5ml and the bottle held exactly 20 doses. They were given 20 hypodermic syringes and instructed on how to administer the vaccine IM. Have you ever given a person a shot? It’s nerve wracking, especially in the beginning because they had no practice needles. With everyone vaccinated, they had to wait for the vaccine to produce antibodies before they came in contact with other humans, about two weeks. That, or wear the same old masks that they were running out of. They waited.

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Flu viruses change from year to year, which means two things. First, you can get the flu more than once during your lifetime. The immunity (natural protection that develops against a disease after a person has had that disease) that is built up from having the flu caused by one virus strain doesn’t always provide protection when a new strain is circulating. Second, a vaccine made against flu viruses circulating last year may not protect against the newer viruses. That is why the influenza vaccine is updated to include current viruses every year. Another reason to get flu vaccine every year is that after you get vaccinated; your immunity to the disease declines over time and may be too low to provide protection after one year.

Each year, many laboratories throughout the world, including in the United States, collect flu viruses. Some of these flu viruses are sent to one of four World Health Organization (WHO) reference laboratories, one of which is at the Centers for Disease Control and Prevention (CDC) in Atlanta, for detailed testing. These laboratories also test how well antibodies made to the current vaccine react to the circulating virus and new flu viruses. This information, along with information about flu activity, is summarized and presented to an advisory committee of the US Food and Drug Administration (FDA) and

at a WHO meeting. These meetings result in the selection of three viruses (two subtypes of influenza A viruses and one influenza B virus) to go into flu vaccines for the following fall and winter. Usually, one or two of the three virus strains in the vaccine are changed each year.

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Ray broke his promise to June when they went back to Reno looking for whoever had shot up his van. They only took one vehicle and they parked it in a building at Reno/Stead Airport. For this mission, they were carrying the M16A2/M203 combination and a .45 auto model M1911. Each of them had a dozen magazines and one in the rifle as well as 4 extra magazines for the M1911's and 6 HE grenades. They were only six miles from downtown, a walk of an hour or an hour and one half. Most of the people were watching I-80 to the south and they got into downtown without being spotted.

The 3 friends were outnumbered and outgunned. The smart thing to do would have been to go back to the airport, pick up the van and head back to the cabin. What they did, instead, was to take out a sentry and drag him into a building a way out of downtown. Once there they offered an incentive to tell them everything.

"Watch where you're putting the knife," the bad guy said.

"What's your name?" Ray asked.

"Randy."

"What are you people doing in Reno?" Ray continued.

"What the hell does it look like, looting," Randy replied.

"And raping and pillaging and all sorts of things, right Randy?" Steve added.

"Yeah, right, watch the knife."

"Look at how sharp this knife is, Randy," Ray said drawing it across the fabric down near his leg and laying the fabric open. "How many people in your party, Randy?"

"About 300, give or take. Who are you guys anyway?"

"Residents of Reno, come to set things right again," Ray replied.

"You're outnumbered 100 to 1."

"We noticed, Randy. That's why you're going to lay out all of the defenses you have," Ray replied.

“I will not.”

“Cut him,” Steve suggested.

“Wait,” Randy pleaded. “What the hell’s the difference, you’re dead men. I’ll draw the map.”

Apparently Randy was very much interested in not singing Soprano. He drew a very detailed map and George went to check some of the locations.

“Map’s right, Ray,” George reported.

Ray cut Randy’s throat. Now they were only outnumbered 299 to 3. Nobody missed Randy because a lot of the MZB’s deserted their posts when they saw a lady they wanted to get to know better.

Pfutt, Pfutt, Pfutt. 296 to 3.

Pfutt, Pfutt, Pfutt. 294 to 3

Pfutt. 293 to 3.

Got the idea? About 200 pfutts later they were down to maybe 125 bad guys. George wasn’t quite as good with the M16 as Ray and Steve. The rest of the bad guys were in Circus-Circus Reno. It was time for the heavy artillery and they just hoped they didn’t have much collateral damage. The 3 men lobbed 3 HE grenades into the casino. They repeated the process until they were out of grenades. Then they waited until someone showed her face. From the looks of the woman, they might have had more collateral damage than they thought. It turned out that the residents were in the back of the casino and the grenades injured very few. They had finished off the bad guys for Ray, Steve and George and had Reno back again.

“There are lots of M16s and M8 rifles up at the Washoe County Armory,” Ray told one of the men. “I would suggest that you get them and make sure this never happens again. If these guys hadn’t shot up my van, we never would have known that you folks were in trouble.”

“How many of you were there?” a man asked.

“Three.”

“That’s 100 to 1,” the man looked astonished.

“You count well,” Ray laughed. “We have suppressors on our rifles and we took them out 3 at a time. They couldn’t spot us because with a suppressor you don’t give away your position by your muzzle flash.”

“Where are you from?” the man asked.

“Reno.”

“Well how come they didn’t take you prisoner with the rest of us?”

“We weren’t in Reno at the time. We came back last week to get our freezers. Why didn’t the National Guard root those fellas out when they brought the vaccine?” Steve asked.

“We haven’t seen any National Guard.”

“You folks had better look, they have to be somewhere. Would someone give us a ride to Reno/Stead Airport?” Steve asked.

“Where are you going?” someone asked.

“Home.”

“I thought you said your home was in Reno.”

“Was, is the operative word, partner,” Ray laughed. “We’re not moving back until the situation is more stable.”

“Surely there must be something we can do for you.”

“You wouldn’t happen to have a case of Tabasco sauce, would you? After a while those Mountain House meals all taste the same.”

“We’ll find something,” the man assured Ray.

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“Look, ma, no bullet holes,” Ray laughed.

“That isn’t even funny, Ray,” June said.

“What happened in Reno?” Susan asked.

“We killed about 300 bad guys and the townspeople were so grateful they gave a case of hot sauce,” Ray said.

“What really happened?” June asked.

“We killed about 300 bad guys and the townspeople were so grateful they gave a case of Tabasco sauce,” Steve said.

“Really?” Susan asked.

“You’re idiots,” June said.

“It was like shooting ducks in a barrel,” Ray assured June.

“Fish in a barrel, Ray,” Steve corrected.

“Yeah, them, too,” Ray agreed.

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They decided not to talk about what happened in Reno. It was so unbelievable they weren’t even convinced that it happened the way it did. Three older men taking on 300 and winning defied logic, it had to be the suppressors. Pfutt, was the only sound the rifle made. The bullet cracked when it passed stationary objects but at the range they had been shooting, even that wasn’t a problem. A few weeks later, they went back to Reno and Ray traded vehicles. He didn’t dicker much with a dealer; he just dropped off his old van and drove off a new one. He took a beating on his trade in because of the body damage.

The final death toll from the Spanish Flu was about 2.5% of the population, 7½ million people in the US alone. Because of comprised immune systems, the aged, the infirmed and lots of children died. Worldwide, the figure was closer to 5%, 300 million. After spending 10 months on the mountain, they returned home. They didn’t replace the Mountain House foods; they had more than they ever wanted to eat. At Sarah’s urging they tried a different approach. Since the 1930’s the Mormon Church followed a doctrine of maintaining a one-year supply of food. You stored the foods you regularly ate and rotated them. The problem with the stuff they had from Walton Feed was that it was someone else’s idea of what to store. It formed the basis of their new food storage and they tinkered to make the food more enjoyable.

Why store food? Long Valley had erupted and they’d been through an atom bomb and the Spanish Flu Epidemic. That was three, wasn’t it? Every minute of every hour of every day of every year somewhere in the United States there’s some kind of disaster, that’s why. When gold and silver lose their luster, buy; they’ll get it back. If you can’t look another Mountain House meal in the eye, try something else, they’re expensive anyway. It’s sort of like MRE’s. Sometimes they’re not half bad, until you have to live on them day in and day out. And, they came with Tabasco sauce.

Throughout the history of Hollywood, disaster films have been sure-fire winners for moviemakers. Beginning with *The Wind* in 1928, Americans have been plagued by a *Twister* and *The Perfect Storm*. And we’ve survived *Volcano* and *Earthquake* and *The*

Swarm all followed by *Armageddon*. That's not even mentioning us getting through *The Towering Inferno* and finally making it to *The Day After*.

With amazing special effects, it's easy to get caught up in the fantasy disaster epic. But real-world science is often at odds with Hollywood. What makes a great science fantasy film often bears no relation to real facts or the hazards people truly face. The idea of a *Mega-Quake* – an earthquake of magnitude 10 or larger – while theoretically possible – is very highly unlikely. Earthquake magnitude is based in part on the length of faults – the longer the fault, the larger the earthquake. The simple truth is that there are no known faults capable of generating a magnitude 10 or larger *mega-quake*. That's why they made *10.5*.

About 35 million years ago, an asteroid or comet nucleus measuring about 1½ miles in diameter collided with the Earth at the mouth of the Chesapeake Bay. The force of this collision was so great that it vaporized hundreds of cubic feet of seawater and blasted sediments forming a 53-mile-diameter crater. Glass particles called "tektites" scattered across North America. Tsunamis triggered by the impact may have topped the Blue Ridge Mountains and were much larger than those caused by the recent Indonesian earthquake. Is that anywhere near the Yucatan Peninsula?

The guy down the street says, the quakes this century in Southern California have been readjustments of various crustal blocks in preparation for the ultimate rupture along the southern section of the San Andreas Fault. This section has been locked up for about 500 years. The tremendous accumulated strain has not been lessened by this century's quakes. In fact, these quakes have moved up the date of the *mega-quake*. Time has run out, and it's now overdue. Don't bother being prepared; just simply get as far away as possible from...

The rupture will be as much as 100 miles long. It will extend from near the east side of the Salton Sea, through the San Geronio Pass, along I-10 freeway, through San Bernardino and into the San Bernardino Mountains, perhaps as far as the Tejon Pass. The horizontal offset will be from 50 to 100 feet. The vertical offset will be from a few feet to 20 feet in places. Huge ¼ mile blocks of recent gravels in the Thousand Palms area have been overturned by previous ruptures and jumbled into bizarre arrangements 1,500 feet high at Edom Hill, the highest point of the Indio Hills; a biblical name for a biblical event. Many Christians describe the end of the world as the rapture, where people are taken up. This rupture is similar in that people will be thrown into the air due to the tremendous "G" forces, estimated at greater than 2 "G's"! Giant ground waves will also throw just about everything not fastened down into the air. These waves will be similar to oceanic size swells, upwards of 20 feet! The duration of the event will also be much longer than expected; upwards of several minutes, not just a few seconds. These types of movements will be virtually un-survivable...

There was always a super or mega something, tsunamis, earthquakes and volcanoes. There were the F-5 tornadoes (Fujita) and the category 5 (Saffir-Simpson, Beaufort) hurricanes. Hurricanes are sometimes numbered 12 through 16 using the Saffir-

Simpson Hurricane Scale, with a Category 1 hurricane bearing Beaufort number 12, a Category 2 hurricane, Beaufort 13, and so on. It is suspected that an F6 or greater tornado would be indistinguishable from F5 because significant damage would be done by the sides before the F6 center met objects, and that only a narrow cone would exceed F5, and likely for a limited time. A tiny proportion of tornados have any part near the top end of the F5 category. In theory, F6 would correspond to 319–379 mi/h (511–610 km/h). It should be noted that all tornados above F3, combined, are 2% of the total. Oh, Lord, we can run, but we can't hide.

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The Texas City Disaster of April 15, 1947, started with the mid-morning fire and detonation of approximately 1,850 tons of ammonium nitrate on board the French-registered vessel *SS Grandcamp* in the port at Texas City, Texas. The Texas City Disaster is generally considered the worst industrial accident in the USA's history. A seismologist in Denver, Colorado, initially interpreted the shock waves as an atomic bomb explosion in Texas.

Emergency operations or Emergency preparedness is a set of doctrines to prepare civil society to cope with natural or man-made disasters. Disaster relief is the subset of these doctrines that is concerned with recovery efforts. This is usually a government policy adapted from civil defense to prepare for nonmilitary civil emergencies before they happen.

In the US, most cities maintain at least a cabinet in a basement conference room with several telephone lines. In an emergency, special stationary and other supplies come out of the cabinet, and the conference room becomes the "emergency operations center." The EOC then coordinates the city's emergency effort. Even this tiny amount of preparation, with periodic drills, and coordination with civic organizations, is amazingly better than nothing.

Mitigations attempt to prevent the disaster from ever occurring, or reduce the effects of the disaster.

Floods and storm damage are the most common disasters. So, for example, a project can raise the level of a city so that a storm surge will not drown thousands. This was actually accomplished for Galveston, Texas after a devastating storm surge drowned thousands. For another example, a city can build levies to prevent floods, or (as in San Antonio, Texas) arrange for flood zones to be nonessential parks and walks.

Mitigation is the most preferred method, when it can be achieved at an acceptable cost. Mitigation is often practical for flood prevention, famine prevention, public health measures, and outages of power, water and sewer services.

The most important government preparation, and one of the cheapest, is simply for a city or region to have an emergency operations center, and a practiced, region-wide doctrine for managing emergencies.

An emergency operations center (EOC) is, at minimum, a couple of cabinets in a conference room, and a rather large group of cooperative people. It should have reliable telephones and reliable access to civil and amateur radio networks. One cabinet has the radios, emergency lights and a portable generator. The other cabinet contains specialized stationary, manuals, and vests or large badges to mark people with particular roles in the emergency process.

Cities should plan to rescue their citizens, and plan emergency services.

Generally, a large emergency is first reported to a dispatcher for fire or police services. The dispatcher has a predefined criterion to contact the emergency services coordinator, or an alternate. The coordinator decides whether to activate the emergency operations center.

When the coordinator, and members of the supporting teams are in place, the EOC becomes active. The EOC usually begins by dispatching crews to gather information. Then it prioritizes needs, and dispatches emergency services. It also begins negotiations for emergency funding sources.

A continuing nasty problem in mass emergencies is a lack of trained responders. Most professional emergency services support about ten trucks per 100,000 people, and take at least a half hour per rescue. If a mass emergency injures or traps 2% of the population, this force will finish its rescues in about 100 hours.

In this time, up to $\frac{3}{4}$ of the salvageable victims can die. Simple shock victims will die in about two hours. Trapped children will die of thirst in 24 hours, trapped adults and shut-ins in 48.

In mass emergencies, pre-trained, volunteer community emergency response teams (CERTs) can rescue the 95% of victims that need only basic first aid or light search and rescue skills. CERTs also can locate most of the roughly 5% of victims that require professional rescue skills. With a twenty-fold reduction in demand, and less need to search for victims, the professionals can then complete the most demanding rescues in ten to fifteen hours. Most salvageable people will be rescued.

The CERTs can also form neighborhood shelter and support groups, and arrange professional rescues, with triaged medical evacuation to prepared medical organizations via pre-arranged communications with the emergency operations center.

Recovery rebuilds damaged infrastructure, and restores people to normal work. Often recovery can be greatly aided by small amounts of infrastructure. For example, a subsidized "tourist" ferry can help a city on a river recover from an earthquake or flood-

damaged bridges in a few hours, rather than weeks, by letting emergency traffic immediately restart.

The first practical response is to discover funding. This is usually a political process. Next, recovery needs are prioritized. This prioritization may occur in the EOC, although for many recovery items, priorities will have to be set politically.

The usual recovery is to repair essential bridges, roads, power, water and sewage systems. Some cities with crucial bridges “back them up” by subsidizing a “tourist” ferry that can carry emergency traffic when a bridge goes down.

If violent storms occur, have a storm shelter, or have warning devices and an evacuation route. New designs can build a shelter as a concrete-block bathroom, using approved methods.

Some coastal cities in California have disasters as often as every two years. These areas have developed powerful techniques for personal preparedness. As in civil preparedness, they combine mitigation, preparation, response and recovery.

People have a bag or knapsack filled with gear and attached to their bed. In an earthquake or major storm, a bag merely under a bed is lost when the bed moves.

Many disasters cause windows to break at night. One of the most common disaster injuries occurs when people try to run on broken glass in bare feet. This causes immediate casualties who cannot self-evacuate. To prevent foot injuries, train yourself to put on shoes at night, and train children to stay in bed and wait for you to come for them, unless they see flame, smell smoke or feel heat.

Many disasters cause power failures, and happen at night. At night, without street lights or lights, it is difficult to self-rescue. The gear in the bag should therefore include at least shoes and a flashlight. A plastic grocery bag with tennis shoes and a flashlight is immensely better than nothing. Do it now, and improve it later.

In a home confinement scenario, a family should be prepared to survive and treat moderate medical problems for a minimum of three days (two weeks is better) without deliveries of entertainment, food, fuel, utilities, water, or power, or pickups of trash and sewage. Likely scenarios include flood, loss of bridges or roads, extreme weather, earthquakes (which occur in all parts of the world), and civil disorder. Homes in areas with extreme weather should have appropriate radios and storm shelters. Consider making these dual-use shelters for fallout.

The most extreme home confinement scenarios have radiological disasters followed by famines of up to a year. Planners for these usually buy bulk foods and appropriate storage and preparation equipment, and eat the food as part of normal life (bulk foods are substantially less expensive than grocery foods).

In an evacuation scenario, a family should plan to evacuate by car with the maximum amount of supplies, including a tent for shelter. The plan should also include equipment for evacuation on foot with at least three days of supplies and rain-tight bedding (a tarp and a bedroll of blankets is the minimum). Likely scenarios include flooding, extreme weather, tsunami, chemical and radiological accidents, and war.

Title 18 – Chapter 12 – Changes

Seven point five million people dying were almost like God had reached down and plucked New York City off the map, people and everything. How could you prevent something like that from happening? You can't until one of those Star Trek doctors invents some kind of a cure-all shot that immunizes you against everything for the rest of your life. Thanks for the links, but less background and more story. Right. Don't give them any background, leave them guessing. Life as a whole was months and years of sheer boredom interspersed with moments of sheer terror.

After the Spanish Flu epidemic WHO went back to making up flu vaccine just like they always did. On October 2, 1989, 100 cynomolgus macaques from Ferlite Farms in Mindanao Island, Philippines were flown from Manila, through Amsterdam to New York, and then transported by truck to Hazleton Research Products' (HRP) Reston Primate Quarantine Unit in Reston, Virginia. On January 31, 1990, Ferlite Farms sent a shipment of 100 macaques to Hazleton's Texas Primate Center (TPC) in Alice, TX. A day later, 100 monkeys from Ferlite were also sent to HRP's Reston Unit. Texas outbreak, number 2 (#3 overall) was in March of 1996, when 100 colony-raised macaques from Ferlite Farms were shipped from Manila to Houston by way of Hong Kong and Rome.

Ebola outbreak number 4 came in 2019, and this time it was from African monkeys infected with EBO-Z. Most doctors' offices have signs listing the greatest terrorist threats including Anthrax, etc. They also list hemorrhagic fever. The signs were unmistakable. Within hours of the first diagnosis, the CDC and the NIH swung into motion isolating the identified cases. The President was on TV again and told everyone that this time it was Ebola and the people had, by God, better listen to him. Epidemics spread like wildfires even when the country where it first appears is a bit on the isolationist side. All it took was for an infected person to fly to Europe for a much-delayed vacation. Ebola can be an airborne virus and you may start spreading it before you're symptomatic, as was the case in this instance.

In order to get on an airplane bound for Europe, you have to go through a major airport. The common denominator would later prove to be the flight crew, however. The 747 landed at Heathrow and discharged passengers and took on more for the short hop to Charles de Gaulle. After the mandatory layover the crew continued on to Rome's Fiumicino and from there on to Athens's International. All the while discharging and taking on new passengers. The ill passenger got off the airplane in Paris, but it was too late because the flight crew was infected.

◦

Washington, DC...

"What are we going to do now?" the President asked.

“The same thing we did 2 years ago when we had the Spanish Flu outbreak,” the Secretary for Health and Human Service said.

“I seem to remember that didn’t come out well.”

“People will listen better, their lives depend on it. Anyway we’ve stocked up on the N-95 masks and can begin distribution immediately.”

“What about a vaccine?”

“They’ve been working on that for 20 years and don’t have one yet.”

“The masks aren’t the problem,” the President said. “People still have to eat and pay their bills.”

“Issue an Executive Order and suspend their mortgage payment for the duration of the emergency. We have millions of tons of grain in storage but the problem is how do we distribute it and what do people do with it once we get it to them?”

“Why can’t we process it into corn meal, flour and rolled oats?”

“We don’t have the capacity to do it quickly and even if we did there would be distribution problems.”

“Did you order the schools shut down?”

They weren’t very happy about that, I can tell you. They lost a whole school season in 2017.”

“Just how did it get here anyway?”

“A shipment of African monkeys transmitted the virus to humans.”

“Have they tracked down everyone that worked at the lab that received the monkeys?”

“All but one, Mr. President. He’s on a bicycle tour of Europe.”

“Ground all aircraft and shut down all public transportation. Get those masks distributed. I’ll go on TV tonight and try to explain this one to the nation.”

“Yes Sir,” the Secretaries replied.

◦

My fellow Americans...

The United States, indeed the world, is faced with the most severe crisis in history. Two years ago we were faced with a pandemic of immense proportions and the mutated form of the Spanish Flu killed 300 million people worldwide. During the latter part of the previous century, hemorrhagic fever struck Africa and Bolivia. There were several instances of Ebola in the United States but all involved the strain known as Ebola-Reston, which isn't fatal to humans.

Recently there was an outbreak of Ebola-Zaire in Reston, Virginia and Alice, Texas. In the Ebola-Reston outbreak, 6 of the 178 people who had contact with the infected monkeys at the Reston Quarantine Unit seroconverted. All six of the individuals worked with the primates. None of the six who seroconverted developed a filovirus-related illness. No one died in Virginia or in Texas, as a result.

The only more dangerous disease in the world is the so-call Virus-X, another product of the African Continent. However, the overall fatality rate for EBO-Z is 89%. All of the employees from Alice have been accounted for. All but one of the employees of Reston has been accounted for. As a precaution, I am implementing the following steps:

School was dismissed earlier today and will remain closed until the crisis is over. Effective immediately the nation is under a state of martial law and a 24-hour curfew is in effect. Anyone found outside of their homes after 9am tomorrow, with certain exceptions, will be shot on sight. Earlier today I issued an Executive Order suspending the collection of mortgage payments for the duration of the emergency.

Food will be delivered to the local communities and it will be the responsibility of local officials to distribute it to the families in their communities. Food distribution will be limited to staples such as flour, sugar, rice, beans, coffee, shortening, yeast, basic spices and sauces. Local agencies will be posting a number on local media outlets where they can be contacted. Persons requiring medical attention will receive house calls from a CERT who will assess their needs.

If everyone cooperates, we can halt the spread of this outbreak before it becomes a pandemic of unbelievable proportions. By way of comparison, the Spanish Flu outbreak killed 300 million people worldwide. If we are unable to contain this outbreak, it has the potential of killing as many as 5.4 BILLION people. That's 90% of the population of the world.

Thank you and goodnight.

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"The cabin?"

"You bet your sweet bippy the cabin," Ray replied. "We'd better rent some U-Haul trucks and make it in a single trip. We can drop them off in Susanville."

"I'll send one of the girls to a pharmacy to pick up several boxes of latex gloves," Steve suggested. "How are we on the N-95 masks?"

"We have several cases. We also have germicide and antibacterial soap. Did you follow my suggestion and stock a one-year supply of all your prescription medications?"

"That plus an assortment of highly effective antibiotics, yes," Steve replied.

"We'll load the trailers tonight and first thing in the morning go rent the U-Hauls. We can send Sarah and June to Costco and Sam's Club and fill in any gaps in our food supplies and be out of town by noon."

"What about the Guard and the curfew?"

"Their guns aren't any bigger than ours."

"I know a 24-hour U-Haul place," George said. "We'd better go get those trucks tonight."

"Ok, maybe we'd better send June and Sarah to a 24-hour grocery store and forget about Sam's Club," Ray agreed.

"Let move," Steve suggested, "We're running out of time."

The Presidential address came at 7pm Eastern rather than the usual 9pm eastern. As a result, Sam's Club and Costco remained open after their usual closing hours and the ladies scored big time on things to add variety to their meals. The largest U-Haul truck holds about 1,596 ft³ of goods and by midnight the trucks and trailers were loaded with everything and they were northbound on 395 headed for the cabins. Sarah had a prepared list of things they might need and they bought jeans, shirts, underwear and coats in several sizes to make allowance for the children growing. They had lots of food. They also had all of the things you never think about: toothpaste, extra brushes, razor blades, shaving crème, you name it.

At the cabin, they unloaded the trucks and around 7am headed to Susanville to turn them in. Susan had joined Sarah and June at Costco and all three trailers were filled to the brim with their Costco purchases. The flu epidemic had taught them a lesson; they now kept a lot of cash on hand and about ½ million each in gold and silver. The houses in Reno had been retro fitted with solar electric and wind turbines and the diesel fueled generators had been moved to the cabins. Rather than trying to move the tanks, they'd installed 3 truck stop sized diesel tanks at the cabins. The cabins were kept fully prepared including a large supply of cut and stacked firewood.

Two days later, the fellas erected a hasty storage shed out of plywood they had on hand, insulated it and added a kerosene heater. It was stocked with Mountain House Foods, water, sleeping bags, folding chairs, a card table and a chemical toilet. They had no intention of turning anyone away, but they'd have to be isolated for 30-days before

they could join the community. In case you're wondering, they didn't return the M203's or the SINGARS radios. Quite the opposite had happened. They replaced the 18 expended HE grenades and added another 144, all HEDP. The HEDP grenades might not stop an up-armored vehicle, but they'd sure give the people pause to think.

The cabins were uniquely situated overlooking highway 395 but invisible from any road. Pines blocked the view of the cabins from the roads and interfered with but didn't completely block the view of Honey Lake. The fire road leading off Janesville Grande Road wasn't on any map they knew of. In fact, the only record of where they lived was on the property tax rolls and the property was in the name of a corporation, set up specifically for that purpose. The name of the corporation, AXBYCZ Corporation wasn't revealing of its intended purpose, which was everything lawful under California law.

One of the advantages of having money was that they could buy whatever they wanted. In their case, it was the refurbished H1 Hummer Alphas with every conceivable option. They drove the U-Haul trucks, the Housekeepers and Nanny's drove the vans with the kids and the wives drove the Hummers. Sarah had gone crazy at Costco and all but cleaned them out of flour, sugar, yeast, rice, beans, shortening and oil, chili spice, Tabasco sauce, coffee and toilet paper. When she got there, Susan made a beeline for the pharmacy and got more latex gloves and a wide assortment of patent medicines. June had gone through the clothes and laid in a very large supply of all the sizes they would probably need for a few years anyway. They bought meat, too, all the ground beef the store had and 3 freezers to hold it and the chickens, steaks you name it. As I said the trailers were full. The last things on had been the freezers and they left just enough room for the portable generators (Cummins Onan Pro 6000E) and gas cans they bought. They filled the generators and the extra gas cans at a gas station and got home about the time the fellas and the Nanny's and Housekeepers had the trucks loaded.

They had cases of corn, green beans, peaches, tomato sauce and paste and mixes of all descriptions. They had started with the things most likely to sell out first, like coffee, and worked their way down Sarah's list. Her list included bacon, cheese, hams and butter. All of which could be frozen to provide for long-term storage. 24.9ft³ chest type and 20.6ft³ upright freezers from Sears together with the 15.2ft³ upright Whirlpool freezers from Costco gave them 60.7ft³ of freezer storage apiece. That's 182.1ft³ in total, enough space to hold a herd of cattle. The home freezers contained meat and frozen juices while the Costco freezers were filled with meat. They repacked everything with a vacuum sealer before it went into the freezer, extending the shelf life to a minimum of 3 years.

Since all of their fuel was diesel, they bought a 500-gallon trailer in Susanville and filled it with gas when they turned in the trucks. That gave them a total of 650-gallons of gas for the 3 portable generators. The 9-gallon fuel tank on the generator would power it for 10 hours at the rated load. They also bought oil filters for the generators and their vehicles plus extra air and fuel filters and motor oil, belts, etc. Their goal was to be 100% independent until the damn plague had run its course.

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“What are they saying on the news?” Steve asked.

“Have you checked your satellite link?” Ray asked, “Mine is down.”

“They all come off the same dish so if yours is down, so are ours.”

“The radio says that they located the missing guy from Virginia in the Ardennes Forest in France. He was deader than a doornail.”

“France? That means he went through at least 2 major airports and exposed a lot of people on a plane.”

“The plane went to Heathrow, Charles de Gaulle, Rome and Athens. The flight crew is dead; they died in an Athens hospital. People made connecting flights out of all 4 airports and the epidemic is now a worldwide affair. TEOTWAWKI, partner.”

“Shit.”

“My sentiments exactly.”

“What’s TEOTWAWKI?” George asked.

“The End Of The World As We Know It, George,” Ray replied.

“Shit.”

“Now you have the idea, George,” Ray frowned. “What we’re going to end up with are outposts of humanity sprinkled all over the globe. Generally in out of the way places like Siberia and the Australian Outback. Anyone who is anywhere near an airport could already be infected and anyone who traveled on an airplane since that guy went through Kennedy Airport stands a high chance of being infected. So even though the administration grounded the planes and stopped public transportation, it very well could be too late already.”

“But we’re safe, right?” George asked.

“As long as we haven’t come in contact with anyone who was infected, yes.”

“The girls wore latex gloves and N-95 masks when they went shopping and so did we,” Steve pointed out.

“Maybe we got lucky.”

“What’s next?”

“All of the food is in the storage shed out back of the cabins. I’m sure that Sarah probably already has menus made up. We can check with the girls and see if they need us to do any rearranging. How much ammo did we pick up at that gun dealer’s on the way back to the houses?”

“I didn’t count it, we just bought him out.”

“That will give us something to do, we can sort and count the ammo,” Ray suggested.

“What will we do with the ammo we can’t use?” George asked.

“Maybe we can open a stand down on the highway and use it as trade goods after the pandemic is over.”

◦

The TV was still broadcasting but the antenna that fed the satellite was run over by a car. It was some guy running from the soldiers. He wasn’t waiting around for no flippin’ government handout. It wouldn’t be broadcasting for very much longer because people were getting sick all over the country. It seemed that the Presidential directive came a little late. It wasn’t hard to diagnose Ebola; all it took was a slide in an electron microscope. But first you had to have someone get sick before you made that diagnosis. The incubation period of Ebola hemorrhagic fever varies from two days to four weeks. With some good luck it might have surfaced immediately, but it didn’t. Among humans, the virus is transmitted by direct contact with infected body fluids such as blood. Would that mean that the mucus people coughed up were infected too? The agents that cause these hemorrhagic fever syndromes are small RNA viruses with a lipid envelope; all are basically zoonotic viruses and most are infectious via the aerosol route. Apparently, aerosols are not generated in sufficient strength in external secretions of patients. This mode of transmission was therefore unexpected with regard to these cases of hemorrhagic fever.

Altogether, there are 13 Hemorrhagic viruses: Lassa Fever, Argentine HF (Junin Virus), Bolivian HF (Machupo Virus), Venezuelan HF (Guanarito Virus), Brazilian HF (Sabia Virus), Phelobovirus (Rift Valley Fever), Nairovirus (Crimean Congo HF), Hantavirus either (HF with Renal Syndrome) or (Hantavirus Pulmonary Syndrome), Marburg HF, Ebola HF, Yellow Fever, Dengue HF and KFD & Omsk HF. If you wear latex gloves and an N-95 mask you have the minimal protection, which is often enough. Especially since the aerosol route isn’t quite as effective with certain of the hemorrhagic fevers, like Ebola for example. In Africa the doctors and nurses didn’t have gloves to wear and they didn’t do a good job of sterilizing the reusable needles for their syringes. Physical contact with an infected person can kill you.

◦

Ray had the right idea about opening a stand on the highway, not that 395 was traveled all that much anyway. And with the early season and lots of variety in their diet they planted a garden and added even more variety. They had real potatoes, both from Costco and from their garden. They even had a special treat from the garden, creamed peas and new potatoes. Is there anything better in the whole wide world? There's fresh corn on the cob, homegrown watermelon, cantaloupe, cucumbers that you make pickles or boats from, those beefeater tomatoes that aren't grown in some hothouse somewhere and all kinds of things to can like green beans. But they weren't in any rush to open that stand. The radio was still going strong so the world hadn't ended yet and that probably meant bad guys.

What did they used to do to preserve beef before the freezer was invented? They canned it in mason jars and it is extremely tasty and darn tender. When some farmer's stray cow came wandering to their cabin area, they did the proper thing, they shot it before they butchered it and canned it in quart jars. There was just enough room in the freezers to hold the steaks from the cow and everything else went into jars. After a summer on the mountain, they had more food than they started with. They also had double the amount of firewood because when they weren't busy doing anything else, they cut up deadfalls and hauled the wood to the cabins.

And then commercial radio died and they thought that maybe the end was coming. Not all of the US is big cities. The US had 1,390 cities with populations of over 20,000 in the year 2002. Only about two thirds of the population lived in the all of the biggest urban areas combined. It isn't like it used to be but there is still a rural America. Most farmers eat store bread but only because it is convenient. There is enough work to do on a farm without taking time to bake bread. However, when pressed to do so, most farmers can close their gates and stay on their farm for a very long time without ever leaving. If the elevator needs grain, they can come and haul it to town from the farm.

The first radio stations to go were the clear channel stations. The AM stations were 50kw and could be heard all over the country when conditions were right. They were mostly located in larger cities where the market was. Then one by one the other stations dropped off the air. This didn't compare with anything they'd ever seen and they'd been through quite a bit when you thought about it. Maybe they need a new definition of a disaster. They realized that this could approach an ELE, Extinction Level Event. However no matter how virulent a disease is, it always spares a few. There were actually people who were immune to AIDS, for example. No doubt some people followed instructions and stayed indoors, it wasn't so long after that Spanish Flu epidemic so the memory had to be fresh in everyone's minds.

"Are all of the radio stations gone?" Steve asked Ray.

"The last one went off the air last week. You didn't ask and I forgot to mention it."

"How does long this thing hang around?" Steve asked.

“Man, I have no idea but they stopped it in Zaire and the Sudan.”

“Stopped it or it quit?” Steve asked.

“Damned if I know, but it’s a virus and a virus requires a live host to survive, doesn’t it?”

“I think so, isn’t that what started the Spanish Flu slowing down, losing its victims?”

“Anyway, let’s give it 90 days and maybe go up to Susanville and check it out,” Ray suggested.

“Will it be safe in 90 days?”

“How should I know, any suggestions?”

“Where could we get some level 4 biohazard suits?”

Level A provides the highest level of skin and respiratory protection available. This type of protection must be gas-tight, vapor-tight and splash resistant. It is worn when there is a possible threat to life and health, such as during spill response and cleanup.

The minimum Level A equipment (Biohazard level 4) consists of:

- Positive-pressure, self-contained breathing apparatus (SCBA)
- Gas-tight suit
- Chemical-resistant inner and outer gloves
- Chemical-resistant boots with steel toe and shank

“3M makes the suits among others, but they’re in Minnesota. CitizenSAFE has them, but they’re in Millville, Utah. Approved Gas Masks in San Diego carries a full line. The other place I found that sold them was called Lab Safety Supply in Janesville, Wisconsin,” Ray explained.

“I didn’t know the net was still up.”

“It’s more down than up, some of the nodes must be running on backup power.”

“It’s a wireless world these days,” George chuckled. “Satellite TV and Internet, Cell phones and solar power. Nothing to tell the world where we’re hiding.”

“It won’t be much of a world as we knew it when the satellites come crashing back to earth or they wear out.”

“I don’t see any point of leaving the mountains,” Ray opined. “We have everything we need here and there isn’t any advantage living in a big city. Except for certain food items, we could stay here forever. We have power, fuel, water and a garden. Everything

we have is kept in long term-storage conditions. We can probably get by making one or two trips a year to get the things we need. As far as the biohazard suits go, we can wear those MOPP suits we bought or the STEPO equipment. They are the same as the suits I saw on the web.”

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Self-Contained Toxic Environment Protective Outfit (STEPO)

The Self-Contained Toxic Environment Protective Outfit (STEPO) program developed a totally encapsulating protective ensemble for protection against chemical/biological agents, missile/rocket fuels, petroleum, oils and lubricants (POL), and industrial chemicals. The ensemble incorporates a NIOSH approved self-contained breathing apparatus (with a tether/emergency breathing apparatus option), a battery powered cooling system and a hands-free communications system. STEPO will be used in extremely hazardous areas where contact with chemical agents, POLs, missile fuels, and/or toxic industrial chemicals can occur. The system will be worn by Explosive Ordnance Disposal (EOD), Technical Escort Units, Ammunition handlers, and Chemical Surety Activity personnel engaged in special operations in Immediately Dangerous to Life and Health (IDLH) environments. The system will be used during peacetime and wartime conditions.

Key Requirements:

- Provide 4 hours of percutaneous and respiratory protection against chemical/biological agents, toxic industrial chemicals, unknown chemicals, rocket fuels and POLs.
- Capable of being decontaminated for reuse after five vapor exposures; decontaminated and disposed after liquid contamination.
- Provide 4 hours of self-contained breathing and cooling.
- Compatible with radios in chemical activity and explosive ordnance disposal supply system.

For safety reasons, STEPO will replace the M3 Toxicological Agents Protective (TAP) ensemble in highly toxic areas. It will provide the wearer with clean, closed circuit breathing air rather than the filtered air provided in the TAP ensemble. Although the STEPO system will be more costly, it will provide greater protection and cooling capabilities than the TAP system. Interim STEPO has been fielded for Army depot use. The STEPO was Type Classified in November 1997. A multifunctional team, to include the production contractor, has developed a scope of work for production and initial fielding of the STEPO system, January 1998. The award date for the STEPO production contract was 3QFY98.

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“What would it take for us to be 100% self-contained?” Steve asked.

“If we cut back on the food we have a little, we could put in a butcher shop and canning facility in the storage building. We could get a meat saw and plenty of those vacuum bags and that would take care of everything but the meat itself. We’d need poultry and some hogs to round out the diet and some way to make ham and bacon. There are plenty of fish in the lake and we’ve been using heirloom seeds.”

“Sounds like a shopping list to me,” Steve said. “We can probably get 90% of the stuff in Susanville.”

Title 18 – Chapter 13 – Shopping Trips

It seemed like every time they got through one disaster another had popped up. The three families were getting very tired of running and hiding. The wives agreed with the men's suggestion that they just stay at the mountain cabins, for a while at least. Out of that decision came a real shopping list with Sarah putting it together. She started out by creating categories: food, transportation, processing/storage, protection, etc.

Food:

- Cattle, male & female
- Hogs, male & female
- Chickens, male and female
- Turkeys, male and female (if available)
- Staples

Transportation:

- Chains for the vehicles
- Additional fuel, diesel and gasoline
- Fuel stabilizers
- Tires, batteries, belts, hoses and repair parts for the vehicles

Processing/Storage:

- Meat cutting equipment
- Knives
- Sharpeners
- Repair parts
- Vacuum storage bags
- Spare vacuum sealers
- Kraft paper and tape
- Jars
- Lids
- Additional pressure canners
- Books on preservation

Protection:

- Reloading equipment and manual
- Reloading supplies
- Large quantities of irreplaceable items (40mm grenades)
- Over the counter and prescription medicines
- Reference books
- Books on homeopathic medicine

Power:

- Replacement batteries
- Replacement solar panels
- Wind turbine repair parts
- Replacement well pump(s)
- Spare inverters and charge controllers
- Compressor to recharge STEPCO air bottles

Miscellaneous:

- Flashlight batteries and bulbs
- Feminine supplies
- Clothing
- Spare computer(s)

Things change when your bugout place becomes a permanent residence and when only God knows how many people had died. There might never be another disaster but the fallout from the latest could be far reaching. There wasn't a whole lot that 3 families could do to deal with the probable millions who might have died in this pandemic. Back in the Spanish Flu pandemic, the government had been forced to suspend embalming, opting for direct burial or cremation. Was there even a government left? Did it matter?

After 90 days they got out the MOPP suits and headed up to Susanville. They came in contact with about 1,300 people, maybe 10% of the previous population. Food was unavailable but they were able to trade for many of the things on their shopping lists. Most importantly, they got a lot of the infrastructure items. They unload a fair amount of the oddball ammo and paid for the rest in gold and silver. Their revised list, after the trip, was:

Food:

- Cattle, male & female
- Hogs, male & female
- Turkeys, male and female (if available)
- Staples

Transportation:

- Additional fuel, diesel and gasoline

Processing/Storage:

- Vacuum storage bags
- Kraft paper and tape
- Jars
- Lids

Protection:

Reloading supplies

Large quantities of irreplaceable items (40mm grenades)

Over the counter and prescription medicines

Power:

Replacement batteries

Replacement solar panels

Wind turbine repair parts

Replacement well pump(s)

Spare inverters and charge controllers

Miscellaneous:

Additional flashlight batteries and bulbs

Additional feminine supplies

Additional clothing

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The next stop was Reno and they got what remained of the 40mm grenades (some they'd missed before) and linked .223 ammo from the armory. A deserted sporting goods store had neither guns nor ammo but it had reloading components and archery equipment. Wal-Mart supplied the remainder of their protection needs, mostly over-the-counter medicines and all of their miscellaneous items including flashlight batteries and bulbs, feminine supplies, clothing and lots of soap.

A grocery distributor provided staples, storage bags, paper and tape, jars and lids. Finally they found replacement well pumps. They also found additional fuel stabilizers but decided that Las Vegas would be the best bet for the remainder of things on their list. The folks in Reno weren't quite as friendly as the people in Susanville. Interestingly, the population of Reno didn't seem to be much larger than the population of Susanville. And, the only reason they got along with anyone in Reno was because they were some people around who had been in Circus-Circus and remembered them. They were cautioned that Las Vegas was not a very nice place but also told that everything remaining on their list was available in Las Vegas, except for the livestock. Reno had the fuel if they could find a way to transport it to wherever they were going. The list was getting shorter. And by the way, the contagion was over.

Food:

Cattle, male & female

Hogs, male & female

Turkeys, male and female (if available)

Power:

Replacement batteries
Replacement solar panels
Wind turbine repair parts
Spare inverters and charge controllers

Have you ever played poker? The secret to bluffing is to never show your hand and only bluff after you've established a pattern of always having the cards you claim to hold. Las Vegas was no doubt filled with gamblers who could look in your eyes and know if you were bluffing. They picked up 3 cases of dynamite in Reno, just in case, one for each of their trailers.

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"We'll save the livestock gathering for California," Ray suggested. "On this trip to Vegas, let's just get the stuff we need to round out our power requirements."

"How are we going to feed the livestock?" Ray asked. "The only place we could plant hay is down by the lake and that would be a dead giveaway, wouldn't it?"

"We can worry about that later, partner," Ray replied. "I'm sure we can import the feed to Susanville and haul it from there to the cabins. You're right about the hay and we're all construction guys, not farmers. We're going to have to hire someone to take care of the livestock as it is. And, considering how little room we have, it will all have to be raised on a dry lot of some kind."

The concept of enclaves of people after TEOTWAWKI was proving to be true. Towns had evolved as central supply points and places for farmers to sell their production. The third thing that towns afforded was protection under the theory that there was safety in numbers. The people in Reno had proved to be right and Las Vegas wasn't a very nice place anymore. On the other hand, the 3 older men had nothing to lose and they each had a case of dynamite in their trailers wired up to a battery and a remote switch. It isn't bluffing if you have the means to carry out the threat you make. They got what they wanted in Vegas, paid in gold and didn't have to blow themselves or anyone else up.

"What's left?" George asked.

"Cattle, hogs and turkeys," Steve replied.

"Don't forget the feed," Ray reminded.

"That was a nasty bunch of people down in Vegas," Steve opined. "I was tempted to push the button just to get rid of some of them. What the hell is the world coming to?"

“It’s a different world now, Steve,” Ray replied. “We don’t have any numbers so we have no idea how widespread the Ebola virus actually got. The Black Plague back in the 1300’s killed off one-third to one-half the population of the world. The world could have lost that many or more this time around. That was about as close to an ELE as we’ve ever gotten in modern times.”

In 2001, epidemiologists Susan Scott and Christopher Duncan from Liverpool University proposed the theory that the Black Death might have been caused by an Ebola-like virus, not a bacterium. Their rationale was that this plague spread much faster and the incubation period was much longer than other plagues confirmed to be caused by *Yersinia pestis*. A longer period of incubation will allow carriers of the infection to travel farther and infect more people than a shorter one. When the primary vector is humans, as opposed to birds, this is of great importance. Studies of English church-records indicate an unusually long incubation period in excess of 30 days, which could account for the rapid spread, topping at 5 km/day. The plague also appeared in areas of Europe where rats were uncommon like Iceland. Epidemiological studies suggest the disease was transferred between humans (which happens rarely with *Yersinia pestis*), and some genes that determine immunity to Ebola-like viruses are much more widespread in Europe than in other parts of the world.

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Down in California’s Central Valley lived a farmer named Mort. Mort raised hogs and his friend Jack raised cattle. They knew a guy named Charlie who raised turkeys, if he was still alive. Mort’s son, Jack, was newly married and looking for a place to live. The 3 men offered to hire Jack and build a new home for him and his family to live in up in the mountains. That was the best offer Jack, the son, had gotten in a long time and he and his wife accepted. The 3 men explained to Mort, the hog farmer, Jack, the cattleman, and Charlie, the turkey guy, that they could deliver the livestock to Susanville and they’d have Jack, the son, move it on to their property. Any family reunions could either be held in Susanville or Jack, the son, and his family could travel back to the Valley.

When Jack, the son, saw the setup at the cabins he was very impressed. If a person didn’t know the cabins were there, it would only be a most unlikely circumstance that allowed anyone to ever find them. The graveled-over fire road left almost no sign of passage and there was nothing down at Janesville Grande Road that indicated that the road was any more than an unused fire road. It was the perfect setup.

The 3 older men bought the building materials in Susanville and built the new home themselves. It was a thoroughly modern home except that a wood stove heated it and the kitchen stove also used wood. There was a small electric water heater to supplement the hot water produced by the kitchen stove water coil and all of the electricity came from solar panels on the roof. Three wind turbines provided more than enough electricity for the entire compound even when the sun didn’t shine. The only thing missing was shelter for the livestock and Jack suggested an insulated pole shed since it was the easiest to construct. A simple kerosene heater that would also burn diesel fuel

would provide more than enough heat in the winter if it got cold enough that the shed needed heat.

Once in a while they went to the lake and seined more fish, throwing back the small fry to grow to bigger size. They really did have the world by the tail in a manner of speaking. No one outside of their community knew where they lived. They could continue to grow all of their own food and the animal manure provided them with all of the fertilizer they could ever use. The trip to Vegas had provided them with all of the PV panels, inverters, charge controllers, batteries and spare parts they could ever use in their lifetimes. The only thing they were short on was real security and they couldn't count on anybody never stumbling upon their little hideaway in the mountains. Jack suggested that they think about installing a cattle guard in the fire road. A cattle guard would at least stop vehicles if they pulled out the grates.

"We should be looking up our other friends and see how many of them made it through these epidemics," Ray suggested.

"Who did you have in mind?" Steve asked.

"We had quite a few friends in Truckee," Ray pointed out.

"You were a regular darn hero to those people," Steve laughed.

"You two never said much about what happened in Truckee while I was watching the shop in Vegas," George pointed out.

"There really wasn't much to tell George," Ray replied.

"Like hell there wasn't, Steve chuckled. "George, you're looking at a genuine hero, as far as Truckee is concerned. "We built a cabin down by Lake Van Norden. We were doing ok and the first bunch of bad guys to hit Truckee didn't find us. They spent some time in Truckee and took off, supposedly for South Lake Tahoe. We had a nice 2-story cabin that even Widow's Walk and a large icehouse. We also harvested timber and had a huge pile of firewood. Then one night a whole army of MZB's attacked Truckee and our cabin. We had to bug out and ended up in a park near Lake Tahoe. Brother Ray here had to be a flippin' hero and he went back to Truckee and shot a bunch of those MZB's and got himself shot to hell and gone."

"You obviously didn't get killed," George said. "What happened next?"

"We ended up married and moving into town for a while," Steve continued. "After everything settled down, we returned to Vegas and you know the story from there."

"You got richer than dirt and made me half rich," George continued. "Then you bailed out my butt when I got in over my head. After that, we moved to Reno and ended up

building these cabins. It seems to me that the 3 of us got in over our heads and bailed out Reno, too.”

“It was either that or get killed once we got started,” Ray laughed. “It was after the first attack on Truckee that we got involved with sniper rifles and suppressors. I had a suppressor on my rifle and managed to take out 8 guys before they tumbled onto my position. Now in Reno, we were one hell of a lot more careful and they never figured out where we were. There is nothing more important than having suppressors on your rifles.”

“The hell there isn’t,” George disagreed. “Suppressors or not, we got darned lucky in Reno. Never discount the luck factor.”

“Yeah, what if the bad guys in Reno had all the people in the front of Circus-Circus instead of in the back?” Steve suggested. “I seem to remember our using up all of our grenades.”

“We’d have killed a lot of innocent people and probably got our butts shot off,” Ray admitted. “However, we still had a lot of ammo left as I recall. We each took 12 extra magazines for our rifles and we had our pistols as backup. The way I figure, it means that we still had around a 1,000 rounds of rifle ammo among us. Even if we had to spray and pray, we’d have gotten most of them.”

“I heard that during World War II, US forces fired about 20,000 rounds for every enemy casualty, and during the Vietnam War, US forces fired about 200,000 rounds for every enemy casualty,” George pointed out. “Maybe we would have survived and maybe we wouldn’t, but let’s not try that again.”

For what it’s worth, from Sniper Central:

“There is a sign at the USMC sniper school that reads: The average rounds expended per kill with the M16 in Vietnam was 50,000. Snipers averaged 1.3 rounds. The cost difference was \$2300 v. 27 cents.”

“The best estimate as to the average amount of rounds expended per kill in the Vietnam Conflict (For US Army Soldiers) is 200,000. The average rounds expended per kill by US Army snipers in Vietnam was 1.3”

“The US Army determined that the average soldier would only hit a man size target 10% of the time at 300 meters with the M16A1 rifle. The US Army standard for snipers is to hit 90% first round hits at 600 meters with the M24 SWS. That is at least an 1800% improvement over the average soldier.”

The M16A2 semiautomatic rifle is the standard by which all military rifles of the future will be judged. This variant of the M16 fires a three-round burst in automatic operation. The system incorporates an adjustable rear sight, which corrects for wind and elevation,

a heavier barrel with 1-in-7 rifling, and a muzzle compensator to prevent muzzle climb during automatic operation. The M16A2 is capable of firing all NATO standard 5.56mm ammunition and can fire 40mm grenades when equipped with the M203 Grenade Launcher.

The M16A2 replaced the M16A1 in US Army service in 1983. It was essentially an improved M16A1. Major changes include: a switch from full automatic to 3-round burst capability; a heavier barrel; improved sights; new, stronger plastic buttstock, hand guard, and pistol grip. The M16A2 had some practical features missing from the M16A1, found on the M4A1 – the prime examples being the ability to rapidly breakdown the gun and fieldstrip, as well as the high metal parts content. Basically an A3 was a full auto A2 with detachable handle and the A4 was a standard A2 with detachable handle. The new M8 was full auto. It had a minimum barrel life of 20,000 rounds, and all it took to change the barrel was a Crescent wrench. Rumor had it that the switch to 3-round burst came because of the 200,000 rounds per kill in Vietnam.

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Page 3.

During Iraqi Freedom the military had a problem. They needed 1.5 billion rounds per year of .223 ammo and the Lake City Army Ammunition Plant only had the capacity to produce 1.2 billion rounds per year. To offset the squeeze, the Army took the unusual stopgap measure of buying ammunition from Britain and Israel. The military had a stockpile of 1 billion rounds but resisted dipping into it except for extraordinary emergencies. It was bad enough we couldn't get them plates for their vests or armored Hummers, but no bullets? (Paul Harvey recently signed a 10-year, \$100 million contract with ABC Radio Networks. He died on 2/28/09.) *In times like these, it's helpful to remember that there have always been times like these.*

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There had never been a time like this unless it was the time of the Black Death in the 1300's. The idea of the cattle guards wasn't so silly. If the cattle ever got out they couldn't stray and if they had a small dozer they could pull all of the grates out in a quick yank.

For those of you who have never traveled to the great west, cattle guards are horizontal steel rails placed at fence openings on highways to prevent cattle from crossing. For some reason the bovines will not step on the guards, probably because they fear getting their feet caught between the rails. I need to make that clear in order for everyone to appreciate the following true story.

“President Clinton received a report that there were over 100,000 cattle guards in Colorado. Because Colorado ranchers protested his proposed changes in grazing policies, he ordered Secretary of Interior Bruce Babbitt to fire half of the guards immediately. Be-

fore Babbitt could respond, and presumably straighten him out (maybe), Colorado's congresswoman Pat Schroeder intervened with a request that before any of the cattle guards were fired, they be given six-months of retraining. Funny, but the Vice President, Al Gore was in approval with the firing of the cattle guards." It turned out to be an urban legend, but if it weren't I wouldn't be too surprised, would you?

A cattle guard the width of the road went for \$2,880 (\$120/ft) before the latest disaster. Plus they had to dig the hole and pour the concrete supports on either side of the hole to support the guard. Since they didn't have a tractor, it made sense to buy a used dozer with a blade. It could be used to plow the snow off the road in a winter emergency. However, better safe than sorry and it was only money so they dynamited a hole and erected the cattle guard.

Winter finally came and Ray spent a lot of time on the ham radio. He could hear people talking from all over the world but he couldn't always understand because he didn't speak the language. From what he could piece together, the worldwide death toll was a staggering 82% and in the US, it was about 72%-73%. The problem was that Reston, Virginia fellow going through Kennedy Airport. People were laying this one squarely on the US claiming it was just another example of the US exporting death. How they'd managed to figure out the source of the Ebola virus was the first mystery. Why they were laying the blame on the US and not Africa was the second.

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Weather wise, the winter was awful but they even had turkey for Thanksgiving and Christmas. The snow seemed to be attracted to their little niche so the little dozer came in handy for more than just yanking the grates or plowing the road in an emergency. This Jack was proving to be quite the young fellow. His suggestion was to maintain the herd of livestock at a constant level and sell off the excess meat. The size of the enclave and its dry lot wouldn't permit much expansion of the herd. The cows were bred when they bought them, which proved to be their salvation because over the winter the bull went down and they ended up canning him in mason jars.

In early spring, Jack suggested he head to the Valley and get a replacement bull. The residents decided they needed to go up to Susanville and pick up some odds and ends, mostly building supplies. Everyone needed to get off the mountain so they loaded their families into the vans and headed up 395. Susanville presented an odd appearance from down the road. They expected to see smoke from chimneys but there wasn't a single stream of smoke. Ray pulled his van over and got out to talk to Steve and George.

"There's something funny here," Ray suggested. "I can't see any smoke from anyone's chimney."

"Trouble?"

“Quite possibly. Maybe we’d better put the kids and the staff into two of the vans and send them back to the mountain,” Ray continued.

The 2 vans turned south and the 3 men and their wives continued north into Susanville. Normally alive with activity, Susanville seemed to be a ghost town. They finally found the residents at the football field. They’d been lined up in rows and mowed down like so much wheat. From the state of the bodies, this had happened during early winter. They didn’t count the bodies because they didn’t have to. All the men and children were there but not as many women as one might have expected. They looked around until they found a dozer and cut a large trench in the football field. Then they dozed the bodies into a mass grave and covered it over.

Susanville had been thoroughly looted. They didn’t find a single firearm or any food. Whoever had done this hadn’t bothered with building supplies and a few other things, like over the counter medications, etc. They felt guilty salvaging what they could but the people of Susanville certainly didn’t need it any longer. There was a semi and lowboy at the lumberyard and they filled the trailer to capacity with additional building supplies.

Back at their mountain home, they built a shed to hold the lumber from Susanville and unloaded the trailer. Once a thriving community of almost 14,000, Susanville had gone to 1,300 and now had a population of 0. The warning couldn’t be any clearer, there were bad guys out there and they weren’t leaving witnesses. The dozer was hooked to the grate of the cattle guard, ready to pull it at a moment’s notice.

“No one can see us from the highway but I noticed that our smoke was visible,” Steve pointed out.

“We can’t eliminate it entirely, but we can add chimney top draft inducers,” George suggested. “We can also burn only hardwoods.”

“We’ll see if we can find some when we return the tractor and trailer to Susanville,” Ray suggested.

Tanoak, black oak, pacific maldone, Oregon white oak, black walnut, goldenleaf chestnut and the big leaf maple are the native Californian hardwoods. They had the reference books they’d collected earlier so it was just a matter of finding hardwood trees to harvest for firewood. The draft inducers ensured that the stoves had enough air to completely combust the wood and burning hardwoods gave off more heat, reducing the amount of wood they needed to burn. They marked the trees they found with a big fluorescent orange “X” so they could find them again during the winter when the sap was down. Meanwhile they harvested deadfalls all summer long while their wives tended to the gardens and canning.

They had planned on trading off their excess livestock to the folks in Susanville, but now they turned to Reno instead. Reno was more fortunate than Susanville; about half of their remaining citizens had survived the attack by the MZB horde. They had very large

gardens too and had planted fields into beans and rice. Their rice yielded about 4,500#'s per acre and the beans ran about 1,800#'s per acre. All they had to trade was chickens and hogs, but the folks in Reno were happy to have any kind of meat.

Reno had been attacked from the east along I-80. The 1,300 residents they'd seen the last time were a hardy lot, many having survived the MZB's they'd killed off years earlier. They had anticipated a problem coming their way and had been down to the Armory at Carson City and were well equipped. Most of the Guard Units in Nevada were located in Reno and Las Vegas, but the Commander's headquarters was in Carson City. Certain strategic supplies were also warehoused in the state capital. The "World's Largest Depot" was located south of Reno on highway 95 at Hawthorne, NV. What they couldn't find in Carson City, the residents of Reno found at Hawthorne. Thank God the Marines had left some of their training equipment behind. Hawthorne was primarily a munitions refurbishing and dismantling plant and they had a lot of old ammo stored. The Marines used 50,000 or so acres of the depot as a firing range.

Title 18 – Chapter 14 – Working to Stay Secure

During the trip to Reno to trade off the hogs and chickens, they drove a Chevron tanker from Susanville and filled it with #2 diesel fuel. They intended on leaving the fuel that was in the tanks in Susanville as their reserve supply and added fuel stabilizers to keep the fuel usable. The folks in Reno told them that those 16,000 gallons of diesel were all that they could spare anyway. There was a lot of gasoline up north so they probably had a lifetime supply of that. Every station in town sold diesel and they probably had all of that they could use for the foreseeable future. The fewer trips they made off the mountain, the less likely they were to be discovered. The folks in Reno had a surplus of firearms and insisted that they take some of the new M8s and the model M320 grenade launchers that went with them.

It turned out that the M8 was more of a system than they had originally thought. It used the M320 grenade launcher, which was easy to attach to the M8 rifle systems and had its own integral sight that was sighted in at the factory. It could utilize the long grenades that the M203 couldn't. One of the 2,427 Igloos at Hawthorne had supplied all of the Mark-19 belted ammo the folks in Reno could ever think of using and they were more than willing to share the belted ammo and a Marine Corps Mark-19 plus all of the Ma Deuces the folks wanted. They took the offered Mk-19 and 4 of the offered machineguns plus a large supply of the .50 cal belted ammo.

Explosive devices were still covered under other statutes, but they hadn't seen any sign of the government and they weren't particularly worried. And now with the M320 grenade launchers they could use all of the 40mm grenades. The compound where the cabins were, wasn't enclosed or anything. It didn't really need to be. To the north the little plateau pinched off into steep mountainside. The road came in from the south and the hill between them and the road was steep enough only a Billy goat could climb it. Behind them the wood stretched out for a long ways before them ran into more of the Sierra Nevada's. The stand of timber was pretty thick and they had enough trouble themselves doing their logging.

It really was the perfect place, all except for its location southeast of Mt. Lassen. There were enough mountains between them and Mt. Lassen that the worst that could happen was that they'd get dusted with ash, again. Considering the alternatives, Mt. Lassen erupting was the least of their worries. Their only real vulnerability was the fire road. The cattle guard would stop vehicles, but surely not people. As construction people they knew that anything one contractor could build another could take down, all it took was an explosive.

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They considered a dozen options but decided that most of them would merely focus some attacker's attention on their position. It finally came to them, what they needed was a natural fence. A natural fence by another name is a hedgerow. During WW II, the Allies played hell getting through the hedgerows in France. To the south, they had plen-

ty of room to plant a hedgerow, even two. So what if the fire road ended up in a hedgerow? Jack suggested that they plant two overlapping hedgerows that would hide the cabins but give them easy access. Where the hedgerows overlapped, they would rig something between the rows to stop any bad guys' advance.

Oregon has a lot of hedgerows so it wouldn't be too difficult for them to do the same Jack's reasoning went. If some of the shrubs were fruit bushes so much the better, some of those fruit bushes had thorns, raspberries and blackberries for example. Jack also recommended cherry, crabapple, mulberry, hawthorn, native persimmon, pawpaw, shadblow, blueberry, elderberry, grape – and nuts such as hazel and beech. If they planted the hedges about 12' thick and separated about 15', they should be able to keep them under control. He was still thinking about how to control the 'road' between the hedges, but a couple of cattle guards would be a good start.

After much additional thought on the subject, Ray, Steve and George got in a Hummer and drove down to Hawthorne, NV. Ray had remembered an article he'd read about the NSD-A. The Non-Self Destruct Alternative is designed to replace non-self-destructing dumb M16 antipersonnel landmines. Under current policy, the M16 mine is only used on the Korean peninsula. The NSD-A is hand emplaced, contains an integral intrusion detector, and features radio frequency control. It may be command destructed and has a re-settable self-destruct timer. If recovered prior to self-destructing, it may be reused. The NSD-A is compatible with the Tactical Internet. The mines had been around since 2006 or 2007. Later versions of the system allowed the controller to turn the NSD-A on and off using radio control. The experimental mines were labeled the XM-7 Spider.

2001: "The US has acknowledged retaining more than 1 million non-self-destructing antipersonnel mines for use in a future Korean conflict. It was revealed in briefings provided to VVAF by officers of US Forces Korea that, upon threat of attack, the United States plans to transfer approximately 500,000 US stockpiled non-self-destructing antipersonnel mines to South Korea forces. South Korean forces would use the mines to create a set of barriers and obstacles to help slow a North Korean invasion. The United States had the third largest stockpile of antipersonnel mines in the world. It consisted of more than 11.2 million antipersonnel mines, including about 10 million self-destructing mines and more than one million long-lasting mines. The US stockpiles nine different types of antipersonnel mines: ADAM, 9,516,744; Gator (Air Force), 237,556; Gator (Navy), 49,845; M87 Volcano, 107,160; MOPMS, 9,184; PDM, 16,148; GEMSS, 76,071; M14, 670,000; M16, 553,537. In addition, over 970,000 Claymore mines are stockpiled."

2004: "The Bush Administration announced the results of a two-and-one-half year policy review on 27 February 2004, abandoning the objective of joining the Mine Ban Treaty eventually and declaring its intent to retain antipersonnel mines indefinitely. In fiscal year 2003, the US provided \$93 million to mine action programs in 37 countries, an increase of nearly \$17 million from the previous year. The US stockpiles nine different types of antipersonnel mines: ADAM, 8,366,076; Gator, 281,822; M87 Volcano, 134,200; MOPMS, 8,824; PDM, 15,100; GEMSS, 32,900; M14, 696,800; M16, 465,330; M18, 403,096 (Claymore)."

“It appears that the Department of Defense research and acquisition community is pursuing two programs to develop new landmine systems: the Spider program and the Intelligent Munitions System (IMS). It is not yet possible to determine if these systems will be compliant with the Mine Ban Treaty definition of an antipersonnel mine. The final system configuration of Spider will be determined in June/Dec 2005. The Spider system consists of a control unit capable of monitoring up to 84 hand-emplaced unattended munitions that deploy a web of tripwires across an area. Once a tripwire is activated, a man-in-the-loop control system allows the operator to activate either lethal or non-lethal effects. Early in its development, Spider contained a feature that removed the man-in-the-loop and allowed for target-activation – a so-called ‘battlefield override’ switch. The status of this feature at this stage is unknown; a system allowing for target-activation would be prohibited under the Mine Ban Treaty. The IMS is an integrated system of effects (lethal, non-lethal, anti-vehicle, anti-personnel, demolitions), software, sensors/seekers, and communications that may be emplaced by multiple means and is capable of unattended employment for the detection, classification, identification, tracking and engagement of selected targets.”

“In February 2004 the Pentagon requested \$20.2 million to produce 40,000 M18A1E1 Claymore munitions. Mohawk Electrical Systems, Inc. (Milford, Delaware) is scheduled to produce the munitions between June 2005 and March 2006. The M18A1E1 will incorporate a new triggering system that does not rely on either the victim-activated mechanical tripwire fuse or command-detonated electrical initiation provided with the M18A1. Instead, the munitions are planned to be command detonated by a new generation of modernized demolition initiators that use explosives to trigger the munition. The US first produced Claymore mines in 1960 and has since bought 7.8 million of them for a cost of \$122 million.”

People who bitched about landmines would probably bitch if they got hung with a new rope. What the fellas needed to do was find some of those Spider type mines. If that wouldn't work, maybe some of those new M18A1E1's would do. The problem was there were 2,427 Igloos at Hawthorne. It might take them a couple of days (weeks).

If you want to see something really neat, do a search on the Self-Healing Minefield (SHM). What's really neat is their Logo; it is a Paladin. What's more, the dang thing worked. They were all anti-tank mines that moved to fill the gaps created when the enemy cut through the minefield. I don't write science fiction, go see for yourself. They sort of were in keeping with that new Flash Gordon Ray Gun Rifle the Army was using. Except, the Army had debugged the M25 and had fielded it along with the M8s about 10 years before. What was a soldier without his computer?

M202A1 multishot rocket launcher (Flash) is a lightweight, reusable, four-tube rocket launcher. It is half as heavy as the M9A1-7 and M2A1-7 portable flamethrowers, has five times the range against point targets, and requires less servicing and maintenance. The rocket clip consists of four aluminum tubes each preloaded with one 66mm rocket. Each rocket consisted of an M235 warhead, containing approximately 1.34 pounds

(0.61 kg) of thickened pyrophoric agent (TPA), an M434 fuse, and an adapter, which adapts an M54 rocket motor to the warhead. The standard warhead was an incendiary.

Older versions of Talley Defense Systems' M-72 light antitank weapon (LAW) were used extensively during the Vietnam War, where their performance showed that only larger, shoulder-fired rockets would stop a Soviet tank. Post war, the bigger and longer-range AT-4 missile and the Shoulder-launched Multipurpose Assault Weapon (SMAW) became the Marine Corps' rockets of choice. Now a modernized M-72A7 LAW is making a comeback, to positive reviews from Marines headed for urban combat in Iraq.

Three factors account for the LAW's renewed popularity:

One is low mass & bulk. The second is reduced back-blast and hence secure firing. The third is an explosion of lightly armored targets on the battlefield. At only about 30" long and about 7 lbs., the LAW is 10" shorter than the AT-4, less bulky than an AT-4 or a SMAW, and only about half their weight. Improvements in the LAW's rocket propulsion have also reduced the back-blast, so it can be fired from a concealed window in urban house-to-house street fighting. A family of designer rounds is being developed for the new LAW – those will include a high-heavy and high-pressure thermobaric warhead capable of destroying a bunker, an antipersonnel warhead that can detonate at 100 meters or more and throw shrapnel fragments at enemy troops, and the traditional antitank warhead.

You saw the M202A1 in Arnold's movie called *Commando* except it was loaded, supposedly, with the 66mm LAW projectiles. Maybe they'd better check the Marine firing range very closely. Although the new M72 family of weapons is designed primarily to defeat light armor, these weapons retain a moderate capability against main battle tanks when engaged from top, side and rear angles of attack. They are also effective against concrete and brick walls, as well as both hasty and prepared field fortifications.

These next generation M72LAWs are affordable, highly proliferable weapon systems, compatible with the needs of most modern armed forces. The new M72LAWs offer greater lethality, increased range, better accuracy, and more versions of the M72. These improved capabilities are provided without significantly increasing system size, weight, complexity, or cost.

Better yet, how about some of those Barrett XM109, 25mm rifles? It was semi-automatic and had a 5-round magazine. That would most certainly penetrate any up-armored vehicles that happened to come by. 1" = 25.4mm. With their luck, they probably find what they wanted in the 2,427th igloo they checked. They started at the Marine Corps firing range. Those LAW rockets had practice rounds. They finally found a few dozen crates of real LAW rockets, 3 cartons of 5 to the case. Since you could never have too many 40mm grenades, they got more of those and more .50BMG belted ammo.

The only difference between men and boys is the price of their toys. They found lots of new toys. Things like the M29 OICW, Barrett XM107 and XM109 rifles, M202A1s, those

fancy new M18A2s, the old fashioned M16's and M14's, which they didn't take, and some of the NSD-A1A (Spider) mines. Then they had to find the Field Manuals for all of the new equipment because some of it was pretty complicated. They even found the laptop the Marines used to control the NSD-A1A and the M18A2 mines. It was password protected but the password was written on the bottom with magic marker. They loaded up and headed home. It was good they left the wives at home; they'd still be shopping, looking for something bigger.

The shrubbery for the hedge came from Susanville. Planted randomly with no discernible pattern, they'd had their fence in no time. It would take the plants 3 years to get to full sized, but even little thorns stick and gouge. Cattle guards went in at either end of the little transition road between the 2 hedgerows and they installed the M18A2's along the front edges of both hedges.

The Non-Self Destruct – Alternative (NSD-A) Spider system was an antipersonnel obstacle consisting of up to 84 hand emplaced, unattended munitions. The system was remotely controlled and has the ability to activate both lethal and non-lethal effects. The Spider system provides man-in-the-loop control. Additional system features include on-off-on, safe maintenance and recovery, reuse, command destruct, reset self-destruct, no residual hazards, and communication with the Tactical Internet. This system supports the Future Force transition path of the Transformation Campaign Plan (TCP).

This is a training standard item used in both training and combat. FY 2005 procurement supports annual training and builds a war reserve inventory in accordance with the Army's procurement goals. FY 2005 funding procures special tooling, Production Verification Testing, First Article Testing, and an initial quantity of Spider munitions that will allow the Army to remain on schedule to meet established Presidential directed schedule goals. Spider is a DOD special interest program as a result of Presidential Decision Directives requiring OSD to search aggressively for alternatives to the M14 and M16, legacy non-self-destruct antipersonnel landmines, primarily for Korea. Those military guys could make Spider sound very attractive when they needed money in their FY 2005 budget. The request was buried on page 419 of a 557-page budget request. The M72E7 was buried on page 430 and the Claymores on page 388.

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They hadn't been to Truckee yet, but they had them in mind when they went to Hawthorne. They brought a few extra for their friends. Ray sort of figured that if there was anyone who could put up a good show against the bad guys who were floating around it would be the people of Truckee, CA. They'd learned their lessons the hard way, back when the Caldera had blown its top. One day when they had nothing better to do, Ray and Steve loaded up their families in the vans and headed to their old haunt. They drove the 74 miles to Reno and picked up I-80 for the 34-mile trip to Truckee.

Things had really changed since the last time they visited Truckee. Many of the residences had been burned down. Truckee had also lost about 2/3 of its residents to the

Ebola virus. That was a lot better than average and they were able to find some of their friends. Ray and Steve immediately realized that Ray was right about Truckee and the bad guys. There was a CNG M1A1 Abrams tank sitting at every freeway off-ramp together with a couple of the Bradley fighting vehicles. However they didn't have any surplus of individual weapons and welcomed the additions from Hawthorne.

"The minute we were healed up from Ebola, we headed to an Armory and got those vehicles," the new Mayor explained. "We tried to call you folks in Reno, but you must have left. A while later, here they came, down from Reno. You can still see their cars in the ditches at the off-ramps."

"That must have been the same bunch that hit Reno," Ray explained. "Those folks went to Hawthorne and when the MZB's rolled in from the east they killed quite a few and drove the others off. Cost them half of their population. Someone went through Susanville and killed everybody that survived the virus."

"Really? Sorry to hear that. We didn't lose anyone to the MZB's," the Mayor smiled, "And none of them got west of here, either. Where are you folks staying?"

"In the general area of Honey Lake," Steve replied. "We're off the road a ways and since we added the chimney top draft inducers to all of our chimneys, then only thing our chimneys give off is a little steam. Most of the time, you can't even see our location from 395. We also switched from the pine and fir to California hardwoods. We have a dry lot with a few head of livestock and the fella who kept Ray's operation going while we were up here a few years back. We also have a young farmer and his wife to tend to the herds."

"You folks ended up with nice families," someone said. "Twins and triplets, how do you keep them straight?"

"We ended up delivering that bunch ourselves," Ray chuckled. "We used a magic marker and numbered them. That happened when the Russian nuke went off at Circus-Circus."

"Have you been to Vegas lately?" the Mayor asked. "They're mighty unfriendly."

"The folks in Reno warned us," Steve laughed. "We each had a case of dynamite wired up to a remote and they didn't give us a lot of trouble."

"Are you ready for trouble at your hideaway?"

"We think so," Ray replied. "We picked up some interesting things down at the Marine Corps range in Hawthorne."

"Like what?"

“M29 OICWs, Barrett M107 and M109 rifles, M202A1s, M18A2 Claymores, NSD-A1A Spider mines and 4 of the new M307 machineguns (25x59mm) that use the same ammo as the Barrett M109 rifles,” Ray replied. “We also have an Mk-19 and 4 Ma Deuces plus some of those M8 weapons systems and our old firearms.”

“Sounds to me like you never have to reload,” the Mayor laughed. “You could just keep switching weapons.”

“Actually, we hope they never even find us,” Steve replied. “But if any of you ever get up to the Honey Lake area, call us on channel 9 on the CB radio. We can cut cross-country and meet you where 395 junctions at Janesville Grande Road.”

“We appreciate the invitation, but we rarely leave Truckee anymore,” the Mayor replied. “Say have you heard any death tolls on the latest virus?”

“Worldwide about 82%,” Ray replied. “In the US, about 72%-73%. If you add that to the people we lost to the Spanish Flu, the US death count in a little over 2 years was around 77%-78%. That’s a whole lot of people.”

“How come the bad ones managed to survive?” the Mayor asked, not looking for an answer.

“They always seem to, don’t they?” Ray responded. “If you have everything unloaded, we have to be going. We wouldn’t want to be on the road after dark. If you need any ammo for those weapons, there are several igloos full in Hawthorne at the Marine Corp firing range. Otherwise, I suppose you can get what you need at Barstow.”

“We thank you kindly for what you brought,” the Mayor replied. “We might make a trip to Barstow one of these days to see what we can find. Do you need anything?”

“Only a force field,” Steve laughed, “But I don’t think they’ve been invented yet.”

“What about those new .50 caliber machineguns?” the Mayor asked.

“Which ones are those?” Ray inquired.

“The M312, .50 caliber machinegun that was the based on that M307 25mm gun. They’re smaller than a Ma Deuce but several times more accurate. And, I understand that they’re convertible to the 25mm gun with a half dozen parts.”

“If you find them, we’ll take them. We’ll swap out the Ma Deuces for 4 of them.”

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A few weeks’ later two men from Truckee showed up in the area and called them on the radio. Ray told them he would be down to get them and they should just wait at the cor-

ner. Up to this time, no one who didn't live at the cabins knew where they were located. The Mayor and another fella from Truckee had 4 of the M312, .50 caliber machine guns to trade even up for the Ma Deuces. The M312 was 9X more accurate, had an 8X rounds on target improvement, was 66% lighter, 18% shorter, fired a full range of .50 caliber ammo and its point, aim and fire time was cut in half. Because the M312 had a lower rate of fire, the barrels were supposed to last much longer. It had an electrically operated trigger and used batteries.

"What do you think of our location?" Ray asked the Mayor.

"You give those plants a couple of years to fill in and no one would ever realize that the cabins are here."

"I think that's the only problem," Ray agreed. "Jack seems to think it might take 3 years for the shrubs and trees to fill in."

"Feed them some of the manure," the Mayor suggested. "That should make them grow."

"What's the story on the machineguns?" Steve asked.

"They came with a spare barrel and we got the gunsmith in town to headspace 2 more barrels for each of the guns. They're marked with the serial number of the guns they belong to."

"That's a pretty skimpy looking barrel, will it hold up?" Steve asked.

"We have no idea, but the Army seemed to think so. Read the Field Manual that came with them. What's with all of the cattle guards, do you expect your cattle to get out?"

"They're vehicle traps, Mayor, we can pull the grates and block off the only access routes into the compound," Steve explained.

"We didn't know if you wanted tripods or pedestals for the M312's, so we brought both. Use them in good health and I hope you never have to fire them in anger. Since you were last in Truckee, we've had two couples showing up looking for a place to live. They're young, kids really, and they don't have much in the way of possessions. With all the houses that burned down, we're little short on space. Could you make room for them here?" the Mayor asked.

"What do you know about them?" Ray asked.

"They're from Utah, Latter Day Saints," the Mayor replied. "Haven't been married very long and they haven't any kids. The boys seem to be willing worker. Other than that, there isn't much I can tell you."

“You can tell a lot by a man’s character by his willingness to work,” Ray said. “Send them up here and we’ll have a talk with them. We can’t promise anything, but if they’re ok, maybe we can find room for them.”

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“It might not be a bad idea to take in 2 more couples,” Steve suggested. We have 4 of the 25mm machineguns 4 .50 caliber machineguns, an Mk-19, and the Barrett rifles. We only have 12 adults and we’re short of people. Anyone who tries to bust into our compound is going to wish they’d never been born. But I definitely think we need more people.”

“It’s more mouths to feed, but food isn’t a problem,” Ray agreed. “Where are we going to find space for 2 more cabins?”

“How about we cut into the hill to the north, grade a terrace and move the livestock operation?” George suggested. “The livestock won’t care if they’re up against a mountain and that would make room for 2 more cabins.”

“I suppose it’s inevitable that sooner or later we’re going to end up with more people,” Ray sighed. “Go ahead and start the grading.”

They sure as hell weren’t short of weapons. They could double or triple their adult population and not run out of weapons. The M8s were based on the German H&K G-36’s and the G-36 was a good weapon. They didn’t have enough handguns to go around, but the M8 could be configured down to a handgun-sized weapon, if necessary. It took George about 10 days to grade a large enough place to move the livestock. There was a lot of dirt and rock to move and it all had to be compacted before they moved the livestock. After that, they had to erect a new fence and dismantle and reassemble the pole shed. They had taken another 10 days to complete that project and one day off in the middle to visit with the two couples that came up from Truckee.

Jerry and Kathy were from Nephi, Utah and Robert and Maria were from St. George. They were college students going to school in San Francisco when the Ebola hit. They took off from San Francisco the moment the word came about the epidemic and spent some time living in one park after another, roughing it. After things settled down a little, they headed for Salt Lake City via I-80. Their car broke down somewhere between Sacramento and Truckee and they’d walked into Truckee, dead tired and out of supplies. Jerry and Kathy were raised on farms and could handle livestock. Robert and Maria had worked at McDonald’s the summer before going to college and Robert had worked construction during the summers between college years. They were in their senior year of college when the Ebola hit. And they’d been lucky enough during the Spanish flu epidemic not to catch anything.

All of them had a tale to tell how they’d survived in Utah when the Long Valley Caldera blew. St. George had a lot more ash than Nephi. Nephi is on I-15 about 42 miles south

of Provo or 85 miles south of Salt Lake City. St. George is on I-15 at its southern border with Arizona up I-15 a ways from Vegas. As far as the marriage thing went, they had gotten legally married in Truckee. They want to get to Salt Lake City to try and get married in the Tabernacle, if possible, but hadn't made it. It seemed like it was really important to them where they got married. Sarah said she understood, but didn't explain it to the others. (I know the difference; please don't explain it to me.)

Title 18 – Chapter 15 – New Families

They invited the two couples to move to the compound. Robert (Bob) could work with them constructing the new cabins and Jerry could work with Jack taking care of the livestock. More importantly they would add 4 more bodies to the adult population and make it easier to fend off any bad guys that might show up someday. There were enough building materials in the lumber storage shed to get a good start on the cabins and a trip up to Susanville and another truckload finished off what they needed to complete the cabins. They took Bob to the football field and showed him where everyone was buried. The entire population had been wiped out by some as yet unidentified MZB's. That should be all the warning Bob needed, they suggested.

One food item they made sure they never ran low on was coffee. Whenever their coffee supply got down to a few cases, they went shopping. Coffee wasn't one of the things that people who had it traded off, no matter what you offered. Coffee was mostly an import.

Coffee is the world's second most valuable traded commodity, behind only petroleum. There are approximately 20 million farmers and coffee workers in over 50 countries involved in producing coffee around the world. Coffee was traditionally developed as a colonial cash crop, planted by serfs or wage laborers in tropical climates on large plantations of landowners for sale in colonial countries. Coffee producers, like most agricultural workers around the world, are kept in a cycle of poverty and debt by the current global economy designed to exploit cheap labor and keep consumer prices low. An estimated 11 million hectares of the world's farmland are dedicated to coffee cultivation. The largest producer and exporter is Brazil, followed by Colombia, Vietnam, Indonesia, and Mexico. Around the globe, the annual consumption of coffee has expanded to 12 billion pounds.

The US imported 2.64 billion pounds of coffee in 1998 (26% of world imports). The US primarily purchases coffee from Brazil, Colombia, Mexico, Guatemala, and Vietnam. We also buy a fair amount from Indonesia, Costa Rica, Peru, El Salvador, Ecuador, Venezuela, Honduras, as well as Uganda, Thailand, Nicaragua, India, and Papua New Guinea. In the US alone, over 130 million consumers are coffee drinkers. There are approximately 1,200 roasters in the US today. Large roasters usually have one blend of recipes and sell to large retailers - the Big Three (Kraft, which owns Maxwell House and Sanka, owned by Philip Morris; Procter & Gamble, which owns Folgers and Millstone; and Nestle) maintain over 60% of total green bean volume. Microroasters, or those who roast up to 500 bags of coffee a year, offer the product we know as specialty coffee. But, they do grow coffee in the US, right? That's right, Hawaii, Puerto Rico and Florida that I know of.

Can you imagine what it would be like not to be able to get coffee and, if you were a smoker, cigarettes? Stay away from a guy like that, especially if he's carrying a gun. Somehow No-Doz and Nicorette gum wouldn't be the same as a cup of coffee and a cigarette when you wake up in the morning. No-Doz Plus: 100 mg caffeine plus 10 mg

nicotinic acid and 10 mg thiamine hydrochloride (Vitamin B1) won't cut it either. Regular caffeine consumption reduces sensitivity to caffeine. When caffeine intake is reduced, the body becomes oversensitive to adenosine. In response to this oversensitiveness, blood pressure drops dramatically, causing an excess of blood in the head (though not necessarily on the brain), leading to a headache. This headache, well known among coffee drinkers, usually lasts from one to five days, and can be alleviated with analgesics such as aspirin. It is also alleviated with caffeine intake (in fact several analgesics contain caffeine dosages). Often, people who are reducing caffeine intake report being irritable, unable to work, nervous, restless, and feeling sleepy, as well as having a headache. In extreme cases, nausea and vomiting has also been reported.

If that's caffeine withdrawal, how bad is nicotine withdrawal? And, what if you combine them? Nicotine withdrawal involves irritability, headache, and craving associated with the sudden cessation or reduction of smoking or other tobacco use by a nicotine-dependent individual. Almost all people who try to quit have some form of nicotine withdrawal. Generally, the longer one has been a smoker and the more nicotine and higher number of cigarettes consumed, the more likely it is that withdrawal symptoms will occur and the more severe they are likely to be. Furthermore, people who are regular smokers tend to have particularly strong cravings and worsening of withdrawal symptoms at certain times, places, or situations associated with smoking. The common symptoms include an intense craving for nicotine, tension, irritability, headaches, difficulty in concentrating, drowsiness and trouble in sleeping, increased appetite and weight gain. Since nicotine itself has antidepressant effects – and many smokers unknowingly smoke to self-medicate depression – use of antidepressants to relieve withdrawal may be particularly helpful.

Well, unless you're already on antidepressants and still smoke 1-2 packs a day. If you're a clerk in a 7-11 and some guy comes in with all the symptoms, give him a free cup of coffee, a pack of smokes and a free lighter. Especially do so if he's carrying a shotgun. It is said that really strict Mormons don't drink coffee. That's good; it means there'll be more for the rest of the residents on the mountain.

A lot of those 1,200 independent coffee roasters are in the suburbs of San Francisco. The folks in San Francisco are particularly fond of European Roast coffee. Best if you can find a coffee roaster and some green beans and roast them in a popcorn popper than to have to drink European Roast coffee, in the opinion of some. You can always grind the coffee in your blender if you don't have a coffee grinder and you can roast the coffee in the oven if that's all you have. Some folks actually like Mountain grown coffee (Folgers) and can't stand Columbian (Yuban).

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They appreciated the suggestions they sometimes got, but they already had Clorox bleach and hundreds of pounds of medical supplies. If they used Clorox bleach as a disinfectant at Dugway Proving Grounds, it must be pretty strong stuff. You can also use it to disinfect your water supply and a gallon of bleach goes a very long way.

In March 1968, 6,400 sheep were found dead after grazing in south Skull Valley, an area just outside Dugway's boundaries. When examined, the sheep were found to have been poisoned by a deadly nerve agent called VX. The incident, coinciding with the birth of the environmental movement and anti-Vietnam protests, created an uproar in Utah and internationally.

DPG continued its role in the testing of chemical agents, pathogens, and toxins, conducted in sealed containment chambers (rather than open air testing as in the past). Other activities at DPG include Army Reserve and National Guard component maneuver training, and US Air Force Flight Test Center. If you happen to check on DPG at Global Security and see the picture of concentric circles, imagine a blockhouse ½ mile away, only the whole thing is at Edwards AFB in 1964 and in the center of the circle is a 500# cylinder of solid rocket fuel topped by 100# of TNT.

It was called a detonation test and when they initiated the TNT, it knocked the light fixtures off the ceiling in the blockhouse and destroyed about \$1,000,000 worth of instrumentation buried in bunkers radiating out from the inner circle. Your tax dollars at work! They found out that solid rocket fuel is VERY explosive. Neither of the 2 men inside the bunker required medical attention, but rumor has it their wives had trouble getting their trousers clean. I loved the Air Force; we got to blow something up about once a week at the rocket site. You saw the Saturn 5 booster lift the Apollo spacecraft to the moon? 1.5 million pounds of thrust per engine (5 total) and the first few were spectacular (explosions). Very few people who worked at the rocket site wanted to be Astronauts. Chuck Yeager did but they had to keep him at Edwards to crash the airplanes. He was pretty good at it, you know. I saw the smoke from the following crash:

The first NF-104A was delivered on October 1, 1963, with the other two following a month later. They were operated by the Aerospace Research Pilot School at Edwards AFB, which was commanded at that time by Colonel Charles E. "Chuck" Yeager. On Dec. 10, 1963, while testing an NF-104A rocket-augmented aerospace trainer, he narrowly escaped death when his aircraft went out of control at 108,700 feet (nearly 21 miles up) and crashed. He parachuted to safety at 8,500 feet after vainly battling to gain control of the powerless, rapidly falling craft. In this incident he became the first pilot to make an emergency ejection in the full pressure suit needed for high altitude flights. The aircraft was destroyed in the ensuing crash. An investigation later showed that the cause of the crash was a spin that resulted from excessive angle of attack and lack of aircraft response. The excessive angle of attack was not caused by pilot input but by a gyroscopic condition set up by the J79 engine spooling after shut down for the rocket-powered zoom climb phase. Yeager started trying to bailout at 58,000', but he was in a flat spin. Remember 'Top Gun'?

To err is human, to forgive is divine; neither of which is Air Force policy.

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That hedgerow was a good idea, but when it filled in, it would be a problem in and of itself. The bad guys couldn't see through it, but neither could they. That would make most of their heavy weapons all but useless. They puzzled over that one for a while and decided they needed 4 pillboxes, 3 in front of the rear hedge facing south and a 4th at the end of the lane between the 2 hedges facing west. The latter could provide covering fire for the other three and protect the lane between the hedgerows. They moved a few plants and constructed the first 3 pillboxes inside of the hedgerow, with small tunnels leading back inside the compound. Camouflage paint and a few plants made the 3 new pillboxes virtually unnoticeable. The 4th pillbox at the end of the lane opened to a path on the side of the hill that they could take back to the compound without exposing themselves.

The 3 south facing pillboxes contained an M307, M312 or the Mk-19. The 4th pillbox was equipped with an M312. You took your lessons where you could get them and it worked pretty well for the Germans in WW II. It seemed unlikely that they would be up against any tanks with bulldozer blades, the Allies ultimate solution to the problem of the French hedgerows. Their warning system was simplicity itself; a couple of Radio Shack motion detectors that tripped bell circuits in the compound. The defenses were a lot of work and with any kind of good luck they'd never have to test them. Their final layer of defense was a series of fighting positions dug inside of the compound.

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When winter came they got out into the woods to the west and harvested the trees marked with the orange X's. With 2 extra pairs of hands to help, the firewood harvest went very well and they were done before Christmas. Jack wanted to go back to the Valley to have Christmas with his family. Ray suggested that Jack tell his Dad, the other Jack and maybe anyone else interested that they could market their livestock in Reno and possibly Truckee. The only livestock they had extra of was pork. With 16 adults, 12 children and 2 more on the way they couldn't spare any of the beef or poultry. Ray also suggested that Jack just have the livestock feed delivered directly to the compound from now on. Jack said that he'd swing over to a coffee processor on the way back and would either bring back roasted coffee or several bags of the unroasted beans.

Jack's wife, Cindy was a schoolteacher and Bob's wife, Maria, had been majoring in Elementary Education. The folks had made a trip up to Susanville and retrieved books and lesson plans from some of the schools. They were holding classes in their living rooms. It seemed that there was never an end to all of the little chores like restocking the wood boxes, etc. Those seining trips usually found them heavily engaged in filleting the fish. Winter also meant it was time to butcher the beef, hogs and poultry and haul the hogs down to Reno to trade for beans and rice.

Each family got a side of beef or a whole steer, plus a half or whole hog including 1 or 2 hams and some slab bacon, a slew of chickens and a couple of turkeys. Jack brought back a pickup load of green coffee beans and said there was a lot more where they came from. That gave them unroasted coffee to trade with the folks in Reno for more

beans and rice. Later in the spring, Mort and Jack brought them a 2½-ton truckload of ground feed and a semi load of alfalfa that they paid for in gold. The feed blend was some sort of generic mix that they could feed to any of the livestock and poultry.

Word came, via the ham radio, that most of the gangs of bad guys had eventually run into their match or had taken over some towns and set up their own little kingdoms having set themselves up as Warlords. These gangs, they were warned, were very well equipped and had modern weapons but preferred to use hit-and-run tactics or ambush travelers.

“It sounds to me that we’re running a risk even going to Reno or Truckee to trade,” George suggested.

“It might be different if we had some up-armored weapons carriers,” Ray suggested. “I’ll radio the Mayor in Truckee and see if they saw any down in Barstow.”

“You don’t need to do that, partner,” Steve suggested. “There were some at Hawthorne. They’ve been sitting a while so they’ll probably need new batteries, tires and maybe belts and hoses, but we could get those in Susanville and take them with us.”

“We’d only need a couple,” George continued. “We could equip one with an M312 and the other with an M307.”

“Let’s go to Susanville and get the tires and batteries,” Ray suggested. “We have all of the other parts here already. We’d better take Jerry and Bob along to man the weapons on the trip home. Jerry seems to be pretty handy with a wrench so maybe he can get the Hummers running.”

They found 2 M1044A1s with deep-water fording kits and winches that had ring mounts for the weapons that provided a 360° field of fire. To get them running, they drained the fuel tanks and replaced the fuel. They also replaced the batteries and all of the belts and hoses. They decided to run the vehicles on their run-flat tires into the nearest town, Hawthorne, where they could find tire equipment to mount new tires on the wheels. They spent the better part of a nerve wracking day getting the vehicles ready to make the trip back to Honey Lake. Nerve wracking because someone had been there since they had been there and from the signs, it was likely it had been one of the Warlords and his gang. Thanks to military standardization, they were able to mount the new weapons in the old ring mounts. Once in a great while, even the military did something right. On the other hand, was everyone sure the M2 linked ammo would work in a M312? The Field Manual said, “M312 capable of firing M2 qualified ammunition. Forward-stripping links required (M15A2).”

The ammunition is linked with the M2 or M9 metallic links for use in the machine gun. The M85 .50 caliber machine gun, which was unique to the M60 Tank and the Marine Corps AAVP7AL, had proven to be operationally unreliable and ineffective against the present generation infantry fighting vehicles (e.g., the Warsaw Pact BMP mechanized

infantry combat vehicle). The Marine Corps continued to store about 3 million .50-caliber cartridges for the M85 machine gun, even though the Marine Corps had removed the M85 gun from its inventory and no other weapon system used this type of .50-caliber ammunition. That was until the M312 came along. It used the same type of link as the ammo for the M85 and there was lots of that ammo stored at Hawthorne and at Barstow. Waste not – want not. The ammo was the same, but the links weren't. What was it that I said about military standardization? Oops.

The fellas took all of the M85/M312 .50 caliber ammo they could carry and the following day hauled the M2/M9 linked ammo down to Truckee and explained the problem. The Mayor of Truckee said he'd send some folks looking for the correctly linked ammo and get enough to share with them and Reno. Maybe the point was that you shouldn't wait until you're in the middle of a firefight to find out if your ammo works in your gun. And depending on what year TSHTF, all of that linked ammo out there might not all be created equal. So if you find yourself stealing a heavy machinegun, make sure the ammo you steal works with that particular weapon. If you're not certain, test fire the SOB and make certain everything works.

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Somewhere, back in the beginning, they'd started out with FAL rifles and M1911's. Steve had sat in a cell in Terminal Island for 2 years over an AR-15. Ray, as you may remember had a FFL. Ray still had a FFL and Steve still had the AR-15 that Ray had retrofitted to a fully automatic rifle because whoever did the demil hadn't done it right. Unlike some people, they only occasionally got rid of any weapons. But each of their weapons had something special about it. Some had suppressors, others were extremely accurate and some were just plain fun to have. They carried the FALs, M16s and M1As in the rifle rack in their personal Hummers and the M25s or the M8s in the 2 military Hummer's they'd stolen from Hawthorne. They carried a shotgun in all of the vehicles.

What they didn't bother with was the single action revolvers or the lever action rifles. The reason was that the weapons were kind of neat, but they weren't the fastest things to reload. Fast was the semiautomatic rifle or handgun equipped with detachable box magazines. Oh they had them, but they were stored in their gun safes. Ray had originally gotten them as inventory. Some things the Army did didn't make any sense. The 7.62x51mm cartridge was 10 times the cartridge the 5.56x45mm ever pretended to be. That 9mm cartridge required a triple tap most of the time in the hands of the average soldier. Instead of the Army getting American firms to develop their new weapons, why didn't they just let H&K-USA do it all? When it came to weapons development, those Germans were geniuses anyway. Anything we could build, they could improve upon.

And in the area of shotguns, the military had replaced all of the shotguns with the Joint Service Combat Shotgun. In early 1999, US AARDEC (Army Armament Research and Development Center), awarded contract for M1014 Joint Service Combat Shotgun to

Heckler & Koch USA, Inc. The M1014 was the Benelli M4 Super 90 developed in Italy by Benelli Armi Spa., and imported in the USA by H&K. Initially, some 20,000 units were shipped to US Marine Corps. Why those and not the Franchi SPAS-15 or the Russian Saiga 12K? Faster reloads with those 2 shotguns, 6 round and 8 round detachable box magazines.

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The Warlords preferred to use hit-and-run tactics or ambush travelers for a reason. Whenever one of the gangs got into a protracted fight, they invariably lost because either the defenders had the home field advantage or were more desperate. Some of the communities were like the folks in Truckee and had helped themselves to M1A1s, Bradley's, LAV25s and some even had some of the M60-2000, the resurrected Patton that was being built for export. It was equipped with the same 120mm gun as the Abrams and was based on the M60A3. The defenders frequently had TOW missiles, just in case the Warlords' gangs had armor too.

The General Dynamics 120S was an upgrade of the M60 tank. The 120 in the designation represented the 120mm smoothbore gun and the S stands for speed and survivability. The M60 part of the earlier M60-2000 designation was no longer considered relevant as so much of the MBT was new. The 120S was a unique product that integrated the M1A1 120-mm turret, equipped with a 240X4 Forward Looking Infrared Radar (FLIR), onto a fully modernized M60 chassis. The survivability of the 120S was unmatched. The turret was protected with the latest armor, which was successfully demonstrated to the Turkish Main Battle Tank Committee. Additionally, the 120mm ammunition was fully compartmentalized, providing optimum system survivability as demonstrated in the 1991 Gulf War.

The 120S chassis included an M1A1 suspension system, giving the tank greatly improved cross-country mobility and a stable base for fire-on-the-move accuracy similar to the Abrams tank. The new 120S was fully functional, ready to accept a power pack of the customer's choice. To achieve mobility similar to an M1A2 Abrams tank, a 1200-horsepower AVDS-1790 engine was recommended. The upgraded AVDS-1790-9A 1200HP diesel was similar to that used on the M88A2 and Merkava vehicles. The engine was mated to M1 Allison X-1100-5 transmission and Abrams final drives. However, other propulsion options were also possible. It had a M1A1 functional turret and suspension system with the M1 gearbox, hydraulic pump and M1A1 slip ring. The hull had adapters fitted so the M1A1 rotary shock absorbers, torsions bars and T-158 track could be used. Hull sides had M1A1-like sponsons and ballistic side skirts.

As a whole, the Warlords' preferred to attack the travelers because nobody traveled around in a tank. They also went after the farmers and ranchers who preferred to stay on their homesteads. They could swoop in as a group and load up a whole semi load of cattle, hogs or sheep. The farmers or ranchers usually hid in their storm cellars rather than confront a large gang. It went very well until one of those gangs decided to move into Susanville permanently. That eventually came to the attention of a small survival

community located on highway 395 in the vicinity of Honey Lake. They went to Susanville to get some things and saw smoke coming from the chimneys. They did what they always did, stopped and discussed the situation. Jerry turned out to have a lot of woodcraft skills and was a dead shot with an M1A rifle so they pulled off the road and sent Jerry to scout out Susanville and find out what they were up against. Jerry had another advantage; he was about 40 years younger. He took off on a lope carrying the M1A low and level by his side.

3 hours later...

"Aren't you even out of breath?" Steve asked Jerry.

"Not much, but I was deep breathing up in Susanville," Jerry said. "There are hundreds of people, mostly men, living in the town. I saw a few women but they didn't appear to be in very good shape and the men were pushing them around. I'll tell you one thing; they're armed to the teeth. They seem to have set up a headquarters in the Best Western Trailside Inn."

Welcome to the Best Western Trailside Inn located in Susanville. Nestled in the heart of Northern California's Sierra Mountains at 4,200 feet elevation, Susanville lies at the edge of prehistoric Honey Lake offering outstanding recreational opportunities for hiking, camping, horseback riding, bicycling, cross country skiing, fishing, swimming, snowmobiling, jogging, golfing and exploration of one of America's great wilderness areas.

"It's the only motel in town," Ray laughed.

"It won't be easy to dig them out of there," Jerry continued.

"If they're in that motel and it's their headquarters, we're in luck," Steve suggested. "It is on the southeast part of Susanville and we could possibly cut it off from the rest of the town. It would depend on where their leaders were when we attacked."

"We aren't kids anymore," Ray pointed out. "What say we go down to Reno and Truckee tomorrow and see what we can work out with them? Maybe if we had some tanks or Bradley's we'd have half a chance."

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Reno had gathered unto itself some Marine Corps LAV25s. They had the same M242 25mm chain gun as the Bradley. The LAV stood for Light Armored Vehicle and couldn't be depended upon to really protect a crew against every weapon the bad guys might be able to muster. The M1A3 Abrams had many improvements, including the LV50-2 engine, more armor and the cupola for the man in the turret. Some of that had happened as a result of the Army reevaluating the FCS approach starting in 2005. The Abrams

MBT was one of the best in the world, but to keep them in the inventory for another 20 years, the Army had to make some changes. Inherent in this planning had been improved survivability and a more dependable power system. It had proved easier to go to the LV50-2 than to reengineer the AGT-1500 engine. The extra armor raised the weight of the M1A3 Abrams to over 75 tons, but it was a whole lot safer and actually used a little less fuel. According to one pundit:

Most sources indicate that MTU's MB 873 (leopard 1 A1 A2 A3) and MT 883 (europack) has a power of between 1500 hp and 1650 hp. But MTU website indicated that both diesel engines could generate 1800hp. What caused the discrepancy? Is it because of the transmission? Meaning the 1800hp figure is before coupling to the Renk Transmission? The LV50-2 was the gas turbine that was develop for FCS. Its power density kw/weight ratio is 1.462kw/kg to 1.9 kw/kg, much higher than the AGT1500 0.98kw/kg.

LV50-2 is derived from LV100-5 (develop for potential re-engine program for M1A2 and M1A1), BUT LV50-2 had a much higher power to weight ratio, LV100-5 power to weight ratio was ONLY 1.07kw/kg (albeit higher than AGT1500 but far below LV50-2). If LV100-5 only has a power to weight ratio of 1.07kw/kg (1118.5kw/1045.5kg), then the US Army might as well use the High Power Density MT 890 series diesel from MTU.

MT 890 series has an AWESOME power to weight ratio of between 1.064kw/kg to 1.235 kw/kg. For a diesel engine, that is very high. Such figure is more impressive than the LV100-5 1.07kw/kg performance. Moreover, diesel is generally more fuel-efficient. It is likely that MT 893 12V engine is slightly more efficient and slightly more compact and lighter than LV-100-5 gas turbine.

All Leopard 2, Leclerc, Challenger and M1's could potentially be upgraded by using the 12v or 16v version of the MT 890 series engine (developing between 1500 to 2000hp). The 12v version is ONLY 50% the weight and size of the already compact Europack Mt 883. The MT 890 would either enable current tank to carry more fuel due to its super compact size (half the size of europack) or enable a tank to carry an engine with almost the same size as current engine but developing 2000 hp to 3000 hp (just use the 16v or a hypothetically scaled up 20V to 24V engine).

The Mayor knew where they could find M1A3 Abrams. Jerry was pretty sure he'd seen M25s and perhaps even some of those Barrett M109 rifles. He knew for a fact that there were Hummer's mounting TOWs because he'd seen them. Ray argued that he didn't care what the MZB's had, because they had to do something. And just because they had the TOWs, didn't mean they could successfully deploy them. The decision was made to get the latest version of the Abrams because Truckee wasn't about to loan out the ones they had and Reno seemed pretty reluctant to loan out the LAV25s. The Mayor suggested that his people could get 4 of the A3's and send them into Susanville in pairs, 2 from either end of town. His Bradley's could follow the tanks and when the whole thing was over, Truckee would have 4 additional tanks.

Ground forces would have to precede the tanks and disable any TOW missiles using a sniper weapon or perhaps the M25 rifles. The Mayor hadn't been the Mayor back in the days of the Caldera and the gangs that had come through Truckee; he'd been a victim. He had something burning inside of him that attacking the bad guys in Susanville might or might not quench. With Truckee supplying heavy armor, Reno agreed to put together a small ground force for cleanup work.

While the equipment was being assembled, Jerry went back to Susanville and observed the bad guys for several days. The women were nothing more than slaves, he reported. They were probably women and teenagers seized by the gangs on some of their raids. The bad guys only had a single Hummer with 2 TOW missiles mounted, parked right in the center of town. His suggestion was to attack the motel and use a Bradley and its Bushmaster chain gun to take out the TOW vehicle. With light and heavy armor in support, the Truckee Militia could go door-to-door and clean out Susanville. Bob, Jack and he could work with the Truckee Militia and the older guys' could cover their backs with their sniper rifles.

The bad guys partied Friday night and Saturday night for 2 weeks in a row so the crack of dawn on Sunday morning seemed like a good a time as any to make the attack. It might give them an edge if the MZB's were hung over and a little slow to respond. When the people and equipment were all assembled, they moved into place on a Saturday night and struck at 0500 the following morning.

While the 2 Abrams reduced the Trailside Inn to rubble, a Bradley slipped in and shot the TOW missiles and the Hummer full of holes. As the Bradley's worked the way to the center of the city, the IFV's discharged militia members and they began cleaning out the houses. The house-to-house fighting lasted most of the day with most of the bad guys being killed and some captured. They questioned some of those survivors and learned that this was the group that had wiped out Susanville originally. George found the dozer and dug a trench in an open area. When they had all of the information they were going to get from the bad guys they marched them into the trench, mowed them down and graded the dirt to fill the hole.

Truckee lost a dozen or so of its finest with another 60 plus wounded. The liberated women, some had been killed, announced that they were staying put and renaming the town to Amazon. They were busy collecting the serviceable weapons the bad guys had used and asked the Major if he could leave the tanks and maybe a few instructors. It's not the size of the dog in the fight; it's the size of the fight in the dog.

Title 18 – Chapter 16 – The Amazons

It seems totally logical that a large group of severely abused women might have had enough and the only thing they wanted to do with men was to use them for target practice. God only knew what the bad guys did to that group of women who were survivors of Susanville and a half dozen other towns. It had been a while so probably one of everything a man could do to a woman. These women were cold and hard and essentially devoid of emotion. And, truthfully, none of them particularly resembled *Wonder Woman* (Lynda Carter; 5'9", 37½C-25-35-costume size). The Mayor decided he didn't need the A3 tanks in Truckee as badly as those women wanted them so his fellas taught the women the fundamental operations of the Abrams tanks and left them manuals so they could teach the rest to themselves. He also told them where to find more ammo for the various weapons on the Abrams.

Amazon was far different from Susanville. The women were more than happy to trade off fuel for the things they needed but the fellas soon found that they were better off letting Susan, June and Sarah do the bargaining. The folks from the mountain traded a little food and the people from Reno gave the ladies some and traded them more to get gasoline. The women put their town back together and formed their own militia. Over the course of the following year they collected quite the set of surplus military equipment and became very proficient in its use. They then announced that if the people from Reno, Truckee, etc., were going to liberate any more towns from gangsters to give them a call and they'd be more than willing to help out. I'll bet they would!

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"Maybe we should increase our livestock production and see about supplying meat to the women in Amazon," Ray suggested. (Don't go there!)

"We can do that if we don't butcher the heifers and keep a couple of extra sows," Jack replied. "We're going to need a larger dry lot, however."

"George can grade it bigger, just tell him how big you need it to be," Steve suggested.

"Fellas, do we have any extra radios?" Susan asked.

"We can get them, what do you need them for?" Steve asked.

"It might be nice if we got some for the ladies in Amazon," Susan suggested. "That way, if someone attacked us, we could call them to rescue us."

"They're way ahead of you honey," Steve laughed. "They have a regular military net set up and operating. They've probably been out scavenging again. I sure wouldn't want to go up against that militia they've built."

“You shouldn’t,” Susan grimaced. “Some of them were pretty badly abused. It made real men haters out of them and I wouldn’t want to be any man they got their hands on.”

Amazons? In 1428 a 16 year old peasant girl named Jehanne la Pucelle convinced the Dauphin of France to put her in charge of his army by promising to reclaim Orleans from the English and have him crowned at Reims. In May 1429 she led the army in the battle that returned Orleans to the French and two months later watched the Dauphin crowned Charles VII of France in the Cathedral of Reims. In May 1430 the girl who became known to the world as Joan of Arc was captured by the Burgundians during her attack on Compiegne and sold to the English. She was charged in an ecclesiastical court with heresy, blasphemy, idolatry, and sorcery. In May 1431 she was burned at the stake in the market place of Rouen as a relapsed heretic. Her relapse consisted of donning the men’s clothing she had worn throughout her career and which she had earlier agreed to abandon in order to save herself from the stake.

There are records of women warriors throughout history. In modern history, look at Israel if you want to find women warriors. The US was too citified (not civilized) to want to allow women into combat. Not everyone agreed that the US should allow women in combat. They gave Jessica Lynch the Bronze star; why, for being a hero or for getting raped? There are 2 sides to every coin and every issue and I ain’t going there, either. It seems that women warriors were fine, as long as they weren’t OUR women. However, throughout its history, the US had its share of women warriors.

Molly Pitcher was a generic name applied to women who bravely carried water (usually in pitchers) to men on the battlefield during the American Revolutionary War. The various Molly Pitcher tales grew in the telling, and most historians now believe they should be regarded as folklore rather than history, though real women inspired these stories.

One such woman was Mary Hays McCaully (or Mary Ludwig Hays), who attended to her husband William Hays in the battle of Monmouth on June 28, 1778. In later versions of the story, this Molly took over her husband’s place at the cannon after he was killed or wounded. According to legend, after the battle, General George Washington issued her a warrant as a noncommissioned officer, and she was thereafter known by the nickname “Sergeant Molly”, although this version of the story probably conflates this Molly with another, a woman named Margaret Corbin. In 1928, “Molly Pitcher” was honored with an overprint reading “MOLLY / PITCHER” on a US postage stamp.

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No place on earth totally recovered after the worldwide Ebola virus. It kind of makes you think that maybe the Black Plague really was Ebola, too. Unlike a lot of survival stories, the world didn’t immediately regress several centuries. This wasn’t like a nuclear disaster that wiped out all of the computer chips. There was still ~20% of the population spread around the US, maybe less now that the gangs had done their thing. If there had originally been one computer in every household there were now five available for every household. The military had a lot of weapons but not so much ammunition because the

military had switched to buying ammo and things on an as needed basis. That's why there'd been all the concern in 2005 when they started to run short on ammo for Iraq.

In the year 2005, the Army took a second look at their Future Combat Systems idea and started to get a little more practical, thus the A3 Abrams tank, with a good motor and more armor. They were too far-gone on some of their ideas, the OICW, for example and they already had the 5.56x45mm part of the system and had test fired the 25mm portion. That's why you found XM8's and XM25 Counter Defilade Target Engagement (CDTE) System's around. Sometimes, as people point out, you can improve things until they no longer work at all. The Crusader might be an example of taking a thing too far. What was wrong with the Paladin and the MLRS? Rockets have a range beyond 30 kilometers, and the Army TACMS Block IA missile can reach to 300 kilometers. In case you hadn't notice, the Pentagon cut back on its request for 155mm ammo for 2005.

They had planned to start out with the Land Warrior and make him or her into the Objective Force Warrior, sort of like Buck Rogers in the 21st, not the 25th, Century. With fewer than 700,000 soldiers, they sure had to do something, didn't they? Their logic was impeccable, the 25mm round for the M25 cost more than a 40mm grenade, but they claimed it took fewer. The 5.56x45mm ammo was lighter than 7.62x51mm, but if you added up all the weight of the extra ammo they shot through the M16 rifles, it was 6 of one and a half dozen of the other. How come they went from 20,000 rounds for every enemy casualty in World War II to about 200,000 rounds for every enemy casualty during the Vietnam War? What weighs more 20,000 rounds of 30-06 or 200,000 rounds of 5.56x45mm? I don't believe a round of 30-06 is 10 times heavier than a round of .223. They shouldn't call the M16 an Assault Rifle; they should call it an Insult Rifle. If the M14 was such a lousy rifle, how come the Marine Corps kept so many?

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The M21 Sniper Rifle was developed jointly by the Army Weapons Command (Rock Island, IL), Combat Development Command (Ft. Benning, Ga), and the Limited Warfare Agency (Aberdeen, MD). The M21 was an accurized M14 National Match (NM) semi-automatic rifle equipped with a Leatherwood 3-9X Adjustable Ranging Telescope (ART). The Rock Island Arsenal converted 1,435 M14NM rifles to M21 sniper rifles for initial fielding to Vietnam in 1969. The rifle was initially fielded with a hardwood stock, which was later replaced with a fiberglass stock. The M21 was officially type classified M21 in 1975, though it had been informally called the M21 since December 1969. It was the primary Army sniper rifle of the Vietnam War and remained standard until replaced by the bolt-action M24 Sniper Weapon System beginning in 1988. The M21 was accurate to 750 yards (690m). The rifle used US match grade M118 NATO 7.62mm cartridges, in five-round or 20-round magazines. The ART telescope featured a variable magnification power of from 3X to 9X, for adjustable ranging between 300m and 900m. This adjustable ranging feature removed much of the guesswork from aiming at the target. The ART was ballistically matched with US M118 NATO ammunition (1,800). Springfield Armory, Inc. called the same rifle the Super Match Rifle. Their M21 was a Super Match with an adjustable stock.

Then the Army went to the M24 SWS, a Remington model 700 with a list price of \$8,197.50 without the scope. That bought you M24 7.62 NATO SWS (Less Scope) including: Rifle, Iron Sight, Scope and Iron Sight Carrying Case, Deployment Kit complete with tools, spares and cleaning kit, soft gun case and a Hardigg Systems Hard Case, Remington item number 25705. I'll take a pair of the Super Match Rifles instead. 20 shots vs. 8 and it used a detachable box magazine and 2 rifles for the price of one. Maybe a Ma Deuce would be better, that's what Carlos Hathcock used in Vietnam about 45 years earlier. With M118 ammo matched to the scope it was better anyway, IMHO.

During the following summer they heard about another town that was run by a Warlord. The ladies up in Amazon were ready to go and they didn't really figure they needed the folks from Reno or Truckee. Jack had run across them on one of his infrequent trips back to the Valley. They were located in Visalia, and Mort, Jack and Charlie were absolutely terrified. And, the easiest way to get to Visalia was to go through Reno, pickup I-80 and take it through Truckee to get to Sacramento. When the fellas and the Amazons showed up in Reno, their ranks swelled a little and passing through Truckee, they doubled their number. They picked up 99 in Sacramento and the large force headed to Visalia scaring the crap out of the towns along the way.

Visalia had shrunk from a city of nearly 100,000 to a little town with less than 3,000 people, just like a lot of the towns in California. A Warlord had moved in with a gang and their superior firepower brought the residents to their knees. The gang frequently raided the farms in the area, rustling livestock and helping themselves to the farmers' harvests. They always stopped short of taking everything and the farmers had learned to hide rather than fight with them. It hadn't always been that way, but after a few farmers were killed or half beat to death, they went underground. This particular Warlord must have realized that if he killed off all of the farmers, he'd be cutting off his nose to spite his face.

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"You know the area, Jack, how do you want to handle this?" Ray asked.

"This is a different layout than Susanville, Amazon I mean," Jack replied. "Those Amazons have any scouts?"

"Probably, they're about like the Special Forces," Ray explained.

"Get them to scout Visalia and come up with a battle plan," Jack recommended.

"How are Mort and the others?" Steve asked.

"Scared, po'd, fit to be tied," Jack laughed.

"Tell them to relax; we'll clean up this little mess as fast as possible."

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A few days later the head of the Amazon force reported that it looked like some of the gang was going out on another harvesting run. She recommended that some of her warriors knock them off and reduce the Warlords gang. With any kind of luck, the Warlord might send more to find the first bunch and they'd take them out too. Then, they could storm Visalia and kick the crap out of the guy running the town. She only had one condition; the Amazons wanted the prisoners, for what she didn't say.

Two days later the harvesting gang left Visalia. They didn't get very far before they ran into the Amazons who didn't take any prisoners. A week after that, the Warlord sent out a slightly larger force to find his harvesters and kick the butts of whoever was giving them trouble. The Amazons took a few prisoners, questioned them and then buried their bodies. The following day, they attacked Visalia.

The Amazons led the way and quickly took out any military vehicles with HEAT rounds and then switched to canister. The Tank Cartridge, 120mm, Canister, M1028, is a tank round comprised of 1150 (est.) tungsten balls, which are expelled upon muzzle exit. There is no fuse on this round. While the dispersion pattern increases with range as the velocity of the balls decreases, the dense tungsten balls are used to minimize the velocity fall-off. This program responds to the USFK urgency of need signed by the CINC in Dec '99. RAPT Initiative Funding to be used for 6.0M in FY02 to accelerate development by one year earlier than previously planned.

This round meets urgent CINC, USFK requirements to provide effective rapid lethal reaction against massed assaulting infantry armed with hand held anti-tank and automatic weapons at close range (500 meters or less) thereby improving survivability. Additionally, this round will significantly increase the tank's lethality and enhance the tank crew's survivability. This additional capability will give the Abrams Tank the ability to survive RPG ambushes and to fully support friendly infantry assaults. Think Claymore X2.

Nasty women, those Amazons. They shot the wounded prisoners and herded those that surrendered into the High School Gymnasium. Then, using a process known only to them, they sorted the prisoners into two groups and obliterated one of the two. The other, smaller group was being dragged back to Amazon, presumably to perform manual labor. Whoever said that they wouldn't need the people from Reno or Truckee had been right; they barely got off a shot but were left to clean up the mess. It was only right; taking out the garbage is always the man's job anyway. After they had Visalia cleaned up, they headed back north, dropping off the volunteers from Truckee and then Reno. The Amazons kept about a dozen of the prisoners, all young healthy specimens, capable of doing a lot of manual labor. Where in heavens name had they ever found cattle prods? The word must have eventually gotten around and the smart Warlords drew a circle around the Reno, Truckee and Susanville area and marked it dangerous territory.

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Mt. Lassen had an earthquake, but it was so small, not many people noticed. And, word came on ham radio of another small outbreak of Ebola somewhere on the east coast. The town where the Ebola outbreak occurred was quickly cordoned off and anybody trying to leave was killed on the spot.

Ray had broken his promise to June several times, maybe it was better to fight the battle there than here. They never did get attacked at their little home in the mountains and eventually, the US and other countries dug themselves out of the quagmire that the epidemics had left and life returned more or less to normal, whatever normal was. As the children grew the area on the mountain became too small to hold them all and they built homes on Honey Lake.

Eventually, the government, or what was left of it, came out of hiding and started to organize rebuilding the US. The people who survived the Caldera erupting, the Spanish Flu and the Ebola virus weren't the same sheeple who had occupied the country before all of the trouble. They'd lost some of their civilized behavior and perhaps even a little of their humanity. People no longer expected a chicken in every pot and a free pot to hold the chicken. When a politician talked about taking their guns away, he/she risked getting shot. All the people wanted from their government was in the Constitution, to provide for the common defense.

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